UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

QUALITY OF WATER IN PASCAGOULA AND ESCATAWPA RIVERS, JACKSON COUNTY, MISSISSIPPI

Open-File Report 78-913

Prepared in cooperation with

Mississippi Air and Water Pollution Control Commission

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By Gene A. Bednar, 1929-

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UNITED STATES DEPARTMENT OF THE INTERIOR

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GEOLOGICAL SURVEY

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For use of those readers who may prefer to use international system (SI) units rather than the inch-pound system, the conversion factors for the terms used in this report are listed below:

Multiply inch-pound units	By	To obtain SI units
inch (in)	2.54	millimeter (mm)
foot (ft)	0.3048	meter (m)
cubic foot per second (ft^3/s)	.02832	cubic meter per second (m^3/s)
mile (mi)	1.609	kilometer (km)
square mile (mi^2)	2.590	square kilometer (km)

°C=5/9 (°F-32) or °F=9/5 (°C)+32

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1977--Concluded

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QUALITY OF WATER IN PASCAGOULA AND ESCATAWPA RIVERS, JACKSON COUNTY, MISSISSIPPI

by

Gene A. Bednar

ABSTRACT

The chemical and physical properties and the range of concentrations of most constituents in water in the Pascagoula and Escatawpa Rivers during the period May 17-19, 1977, varied rapidly between high and low tides, primarily as the result of interactions of freshwater inflow with highly mineralized Gulf waters. The water at a downstream site of the 11-mile study reach on the Pascagoula River was saline. On May 19, 1977, the dissolved-solids concentration at that site was 14,500 milligrams per liter. At the same time, the water at the mouth of Escatawpa River had a dissolved-solids concentration of 4,600 milligrams per liter. The specific conductance of the water at the downstream sites of both rivers increased with depth and progressively decreased upstream to sites where freshwater inflow was predominant. The specific conductance decreased upstream from a maximum of 40,000 micromhos per centimeter at 25°Celsius at site P1 to 60 micromhos at site P12 on Pascagoula River and from 30,000 micromhos at site E1 to 45 micromhos at site E9 on Escatawpa River.

There was evidence of oxygen deficiency (less than 3.0 milligrams per liter) at many sites in deep pools where there is little circulation and mixing of the more dense saltwater. Dissolved-oxygen concentrations ranged from 2.1 to 8.2 milligrams per liter.

Biochemical oxygen demand ranged from 0.1 to 3.5 milligrams per liter and was generally less than 2.0 milligrams per liter at most sites.

A large part of the total organic carbon in the lower Pascagoula River was carried into the study area by freshwater inflow. Very little organic carbon was being discharged by the Escatawpa River into the Pascagoula River.

Total nitrogen moved out of Pascagoula and Escatawpa Rivers at an extremely slow rate and in concentrations of less than 0.1 milligram per liter.

The water temperature near the surface at downstream sites on Escatawpa River at low tide was elevated as much as 2.5°C (4.5°F), suggesting thermal loading.

The fecal coliform and fecal streptococcal bacteria in Pascagoula and Escatawpa Rivers were in concentrations indicative of manmade pollution. The ratio of the concentrations in which these bacteria were present suggests that both rivers receive human enteric wastes.

INTRODUCTION

Water is one of the most important resources of Mississippi. Even though there is an abundant supply of good quality water in the state, there is need for a comprehensive management plan for effective utilization and conservation of this resource. To achieve this goal, the Mississippi Air and Water Pollution Control Commission has been designated as the responsible agency for developing a statewide waste-treatment management plan under section 208 of Public Law 92-500.

The U.S. Geological Survey in cooperation with the Mississippi Air and Water Pollution Control Commission is providing the hydrologic data necessary for determining the assimilation capacity of selected reaches of major freshwater and tidal streams within the state. The hydrologic data presented in this report are intended to assist in developing a comprehensive long-range plan for effective water management and planning.

This report is a compilation of the data collected in Pascagoula and Escatawpa Rivers during an intensive study conducted on May 16-19, 1977. A large part of the area is in an industrial and urban area undergoing rapid growth. Effective water management measures presently are being observed for treatment and disposal of waste materials; however, continuing industrial and urban development and changes in urban growth patterns and industrial processes could present a potentially serious impact on the water resources of the area.

DESCRIPTION OF THE AREA

Location

The general area of the study is the Mississippi Gulf Coast in Jackson County adjacent to Mississippi Sound (fig. 1). The study area and the sites where hydrologic data were collected during the study are shown in figure 2. The area includes 11 miles of the main stem of the lower Pascagoula River from the mouth to upstream of Fourmile Creek and about 8 miles of the Escatawpa River from the confluence with Pascagoula River to upstream of Black Creek.

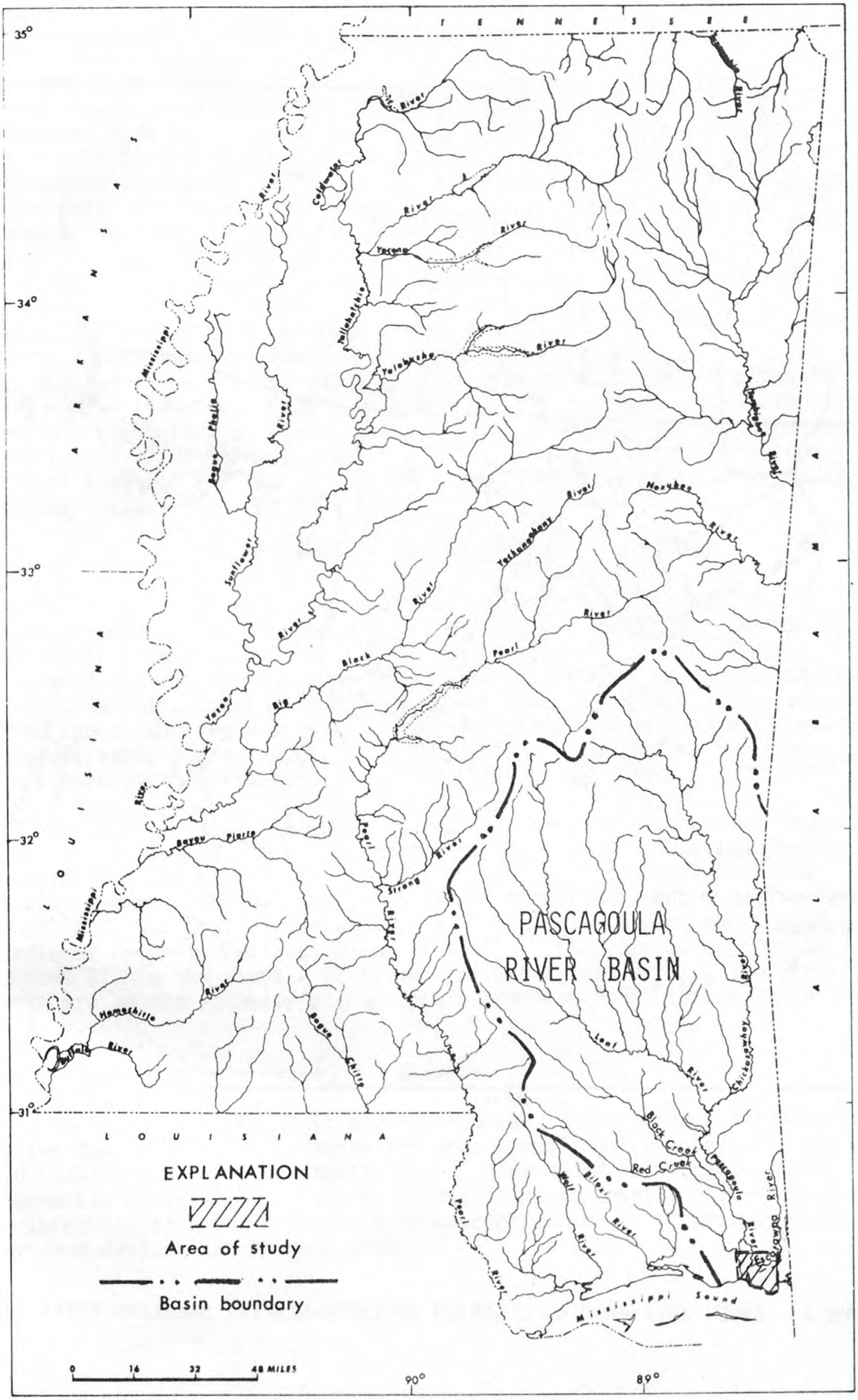

FIGURE 1.--LOCATION OF STUDY AREA AND MAJOR DRAINAGE.

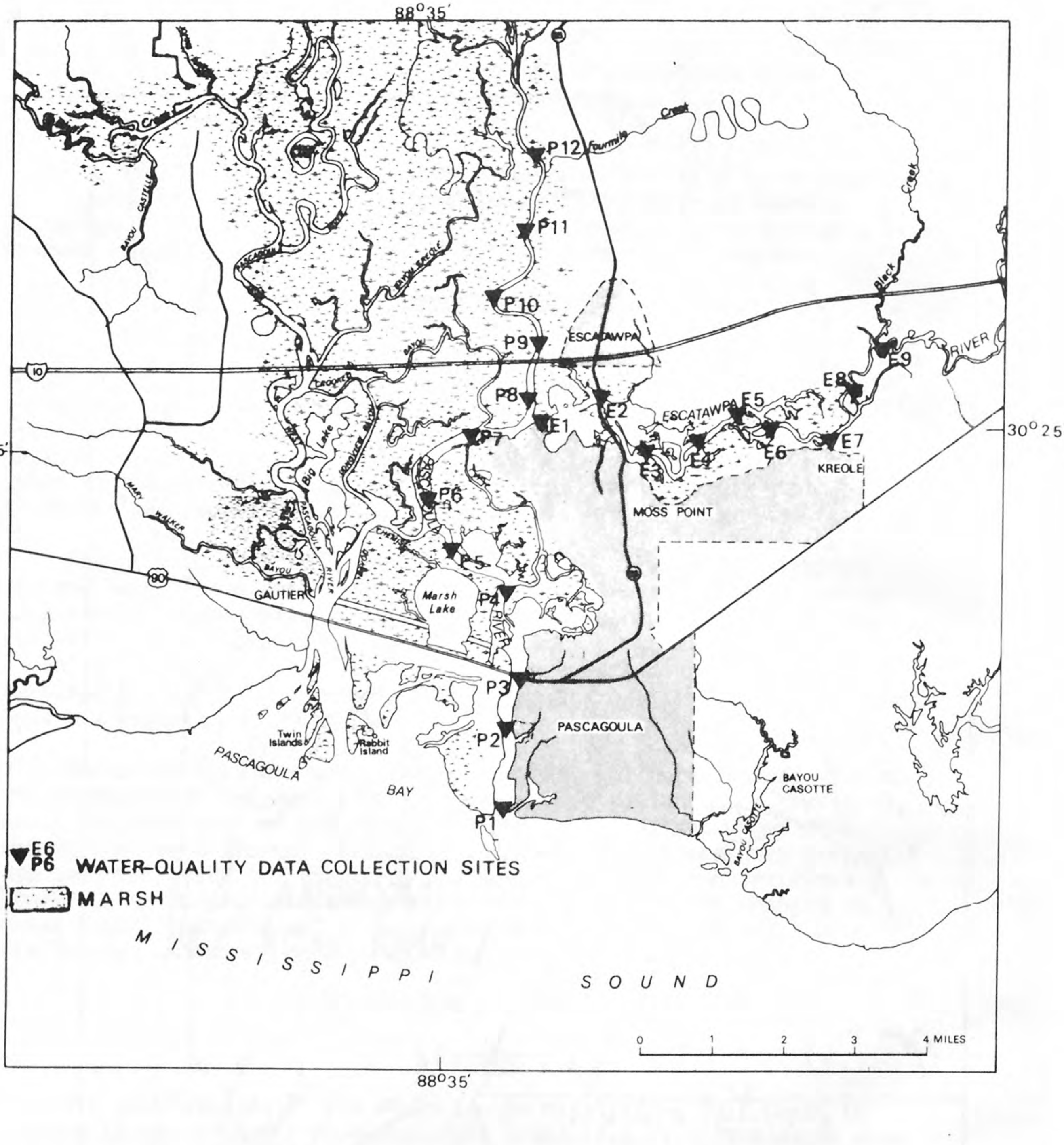

FIGURE 2.--STUDY AREA SHOWING LOCATION OF WATER-QUALITY SAMPLING SITES.

Cultural features

The study area is in one of the most rapidly growing regions of the state. The population of Jackson County between 1960 and 1970 increased from 55,552 to 87,975 (about 58 percent) while that of the state only increased about 2 percent. The population of the city of Pascagoula during the same period increased from 17,155 to 27,264 (about 59 percent) and the city of Moss Point increased from 6,631 to 19,321, a dramatic increase of about 191 percent. The 1977 populations of the cities of Pascagoula and Moss Point were 35,007 and 22,816 respectively, as estimated by the Jackson County Economic Development Foundation.

The cities of Pascagoula and Moss Point lie along the banks of the Pascagoula and Escatawpa Rivers respectively. The area accounts for about one-half of the population of Jackson County and encompasses most of its industry. Some of the important industrial activities of the area are shipbuilding, fish processing, and the manufacturing of paper, textile and refinery products, and fertilizers. Sport-fishing, commercial fishing, and shellfish harvesting also add significantly to the economy.

Geology and Topography

The Pascagoula River basin is in the East Gulf Coastal Plain physiographic province. The exposed sedimentary rocks range in age from early Eocene to Holocene. Newcome (1967, p. 4) states that "Sand and clay in various proportions constitute most of the formations; a few thin units consist of marl or limestone. Sand beds are irregular in thickness and few can be traced with certainty more than a few miles; however, sandy zones, as differentiated from clayey zones, are readily correlated over substantial areas--some throughout the basin."

The Pamilco plain is essentially the coastal plain meadows except along the shoreline where the meadows rest on beach and eolian deposits. The plain in the study area is nearly flat or gently undulating and locally swampy. The altitude of the Pamilco Plain ranges from sea level to 25 feet, but most of the area is approximately 10 feet above NGVD (National Geodetic Vertical Datum of 1929). The plain rises from 10 to 20 feet within the first 2 miles west of Pascagoula River. The higher areas are in the vicinity of Pascagoula and Moss Point (Brown and others, 1944, p. 24).

Climate

Jackson County is humid and subtropical. The climate is influenced by the Gulf of Mexico. Summers are consistently hot, winters are mild, and rainfall amounts are usually high. Hurricanes or tropical storms frequently occur. High tides in excess of approximately 4 feet occur at intervals of about 4 years--a 25 percent chance of occurrence in any year (Wilson and Hudson, 1969).

In the area of this study, the mean annual air temperature is about 68°F. According to the Pascagoula River Basin Water Quality Management Plan, 1973, the monthly mean temperature during January, the coldest month of the year, is 51.8°F and during July, the warmest month, is 83.2°F.

The National Weather Service at Pascagoula reported maximum daily temperature during the study as follows:

May 16	82°F	May 18	87°F
May 17	88°F	May 19	87°F

The mean annual rainfall in the study area is about 62 inches. Rainfall amounts are generally greatest in the spring and summer. Heavy, prolonged rains are infrequent, but may occur during tropical storms or during the cooler winter months. No rainfall was reported during the period of the study or the week preceding it.

Drainage and Morphology

The Pascagoula River and its tributaries combine to form one of the largest drainage systems in Mississippi, covering approximately 9,400 square miles (Harvey and others, 1965). The main stem of the Pascagoula River is formed in northern George County by the confluence of Leaf and Chickasawhay Rivers and it flows southerly through Jackson County before emptying into Mississippi Sound at Pascagoula. The larger tributaries are Black Creek, Red Creek, and Escatawpa River. The Escatawpa River has its headwaters in western Alabama and joins the Pascagoula River approximately 7 miles upstream of the mouth. The Escatawpa River drains an area of about 1,000 square miles (Harvey and others, 1965).

The Pascagoula River divides 17.7 miles upstream of its mouth and forms the Pascagoula River and West Pascagoula River. The West Pascagoula River flows southward parallel to Pascagoula River. The low-water channels of the Pascagoula and West Pascagoula are interconnected by drainage through swamplands and bayous, and the waters may be intermixed. The West Pascagoula was not included in this study.

The study area is affected by saline Gulf waters which normally penetrate these reaches at high tide. The distance that saltwater moves upstream in these rivers depends principally upon freshwater discharge, tidal stage, and configuration of the river channel.

Cross-section profiles of bottom contours near sampling sites on Pascagoula and Escatawpa Rivers are shown in figures 3 and 4. Pascagoula River downstream from site P12 varies in width from about 300 to 1,250 feet (fig. 3) and Escatawpa River downstream from site E9 varies from about 200 to 500 feet (fig. 4). The water surface elevation (stage) is influenced by Gulf tides and may vary as much as 2 feet during a normal tide cycle. A normal tide cycle probably does not significantly affect Pascagoula and Escatawpa River's width because the banks are generally straight and steep. However, the flood plain of Pascagoula and Escatawpa Rivers below mile 10 is mostly marshland and at higher river stages both rivers may vary greatly in width.

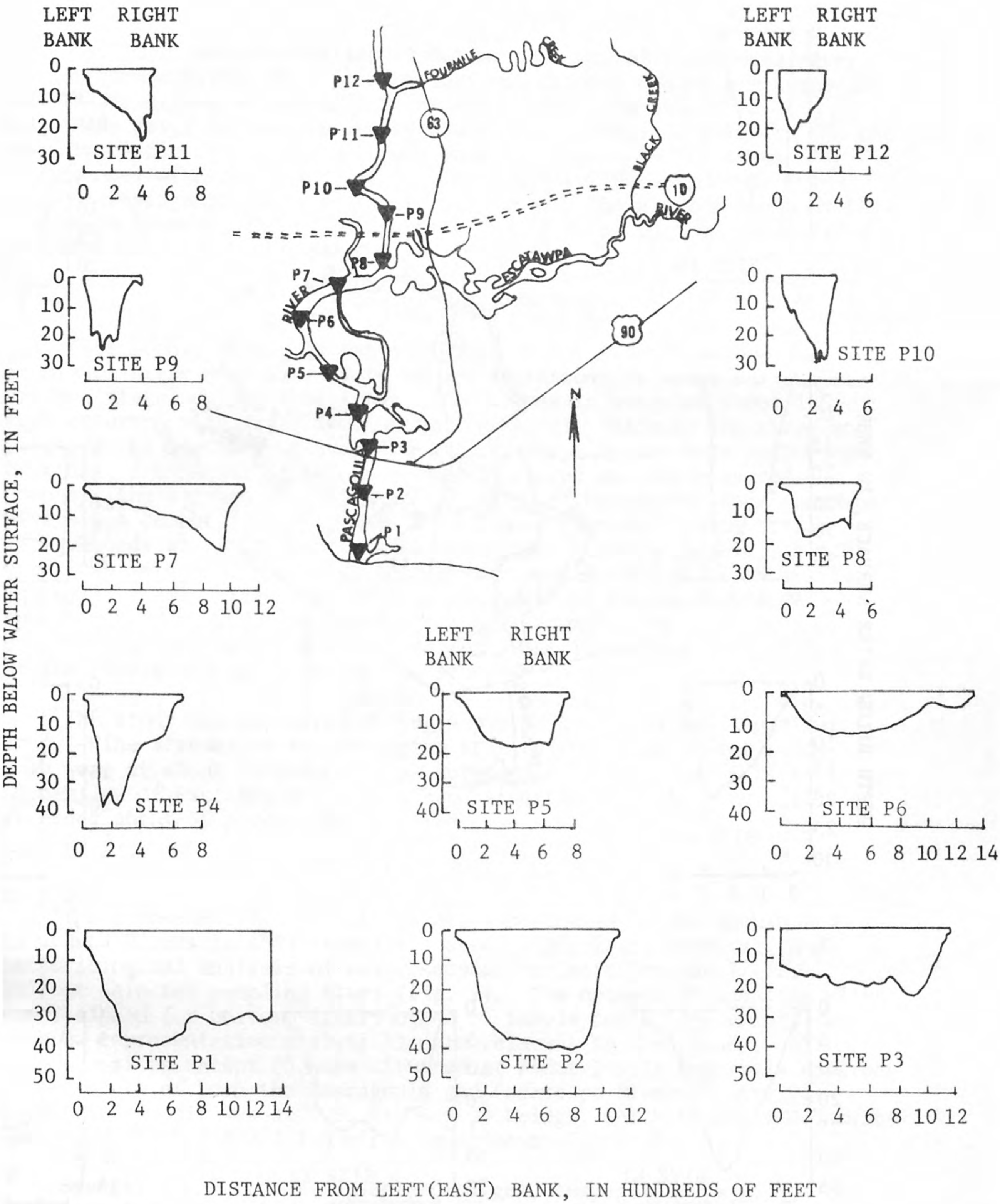

FIGURE 3.--CROSS-SECTION PROFILES AT SITES ON PASCAGOULA RIVER AT HIGH TIDE, MAY 19, 1977.

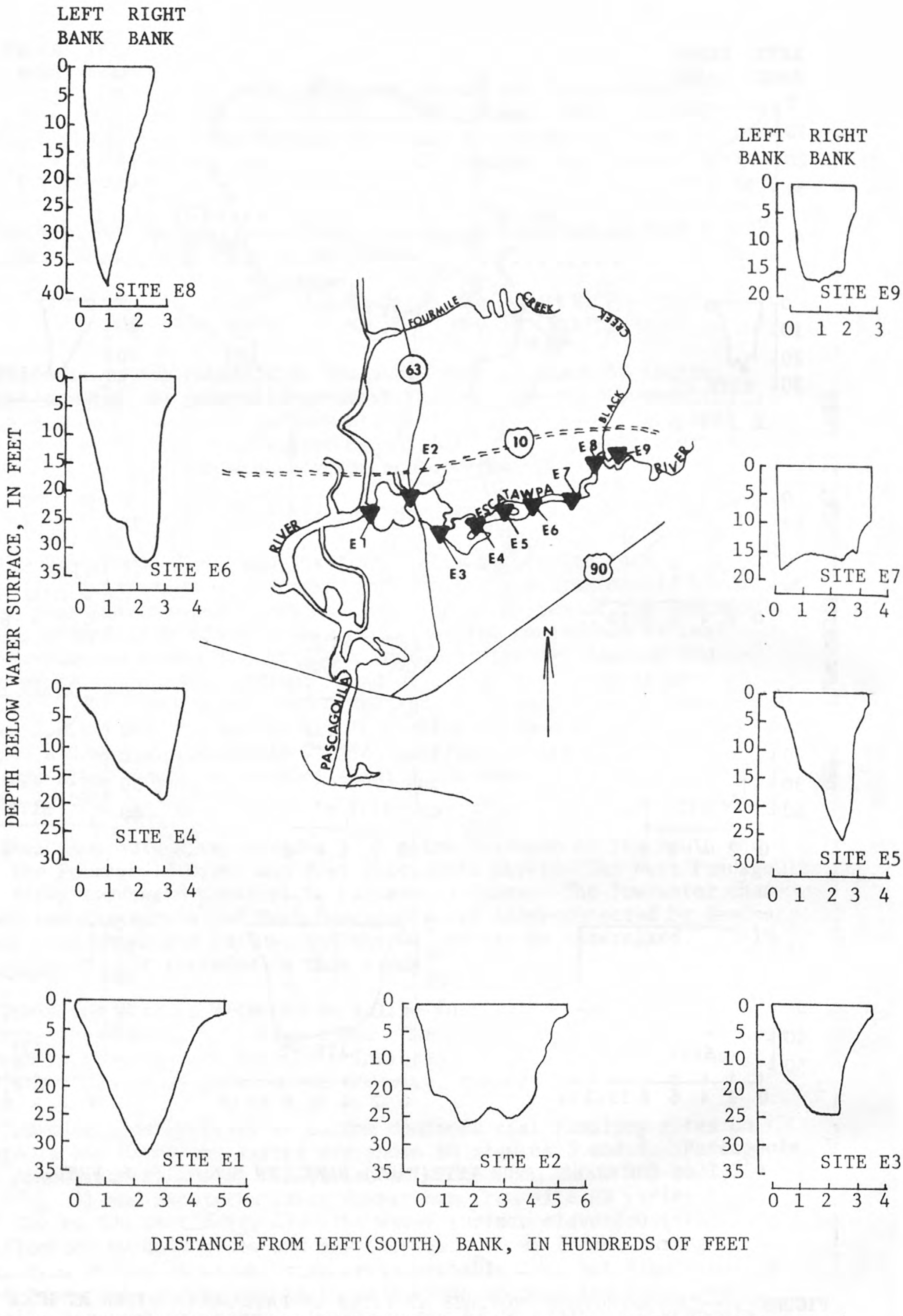

FIGURE 4.--CROSS-SECTION PROFILES AT SITES ON ESCATAWPA RIVER AT HIGH TIDE, MAY 19, 1977.

The longitudinal profiles of bottom contours of Pascagoula River and Escatawpa River (fig. 5) show that mid-channel depths are irregular and characterized by holes 30 to 40 feet deep. The streambed of Escatawpa River is more irregular than that of Pascagoula River, and the characteristic deep holes are more common. Figure 5 also shows that the channel of Escatawpa River is approximately 10 feet deeper than that of Pascagoula River at their confluence. The greater depth of the Escatawpa River at that site may alter the flow pattern and the mixing characteristics at lower depths.

Streamflow and Tide Stage

A temporary tide gage was installed on the right bank of Escatawpa River near site E1 to record variations in water surface elevation (stage) during this study. Variations in stage of about 1.5 feet occurred with tidal fluctuations (fig. 6). Because the stage and discharge of the lower Pascagoula and Escatawpa Rivers were influenced by tides, freshwater inflow into the study area was not measured. However, the average discharge at the mouth of Pascagoula and Escatawpa Rivers was computed for the May 16-19 period from continuous streamflow records at gaging stations on Pascagoula River at Merrill, Black Creek near Wiggins, Red Creek near Vestry, and Escatawpa River near Agricola. The average discharge at the mouth of Pascagoula River was approximately 6,950 ft^3/s (cubic feet per second). The Escatawpa River contributed approximately 670 ft^3/s, or about 10 percent of the flow of the Pascagoula River during the study.

The study was conducted during a period of slowly falling river stage. The streamflow at the gaging stations upstream of the study area were at about 50-percent flow duration. This indicates that streamflow of Pascagoula and Escatawpa Rivers during the study is exceeded about 50 percent of the time.

WATER-QUALITY CHARACTERISTICS

The assessment of the water quality of the lower Pascagoula and Escatawpa Rivers in this report is based on physical, chemical, and bacteriological analysis of water samples collected on May 17-19, 1977 at selected sampling sites (fig. 2). The network of sampling sites was designed for uniform distribution of sample collection points to provide representative analytical data relevant to this study. All sampling sites except P3 were situated at about 1-mile intervals upstream of the mouth of both the Pascagoula and Escatawpa Rivers. Site P3 on the Pascagoula was at U.S. Highway 90 bridge, which is about 0.7 miles upstream of site P2 and 1.3 miles downstream of site P4.

Specific conductance, dissolved oxygen, temperature, and pH were measured on site. The 5-day biochemical oxygen demand (BOD) and concentrations of fecal coliform and fecal streptococcal bacteria were determined at the U.S. Geological Survey mobile laboratory, centrally located in the study area. The other chemical constituents were analyzed by the U.S. Geological Survey National Water-Quality Laboratory in Atlanta, Georgia. The results of these on-site measurements and laboratory analyses are shown in table 1 at the back of this report.

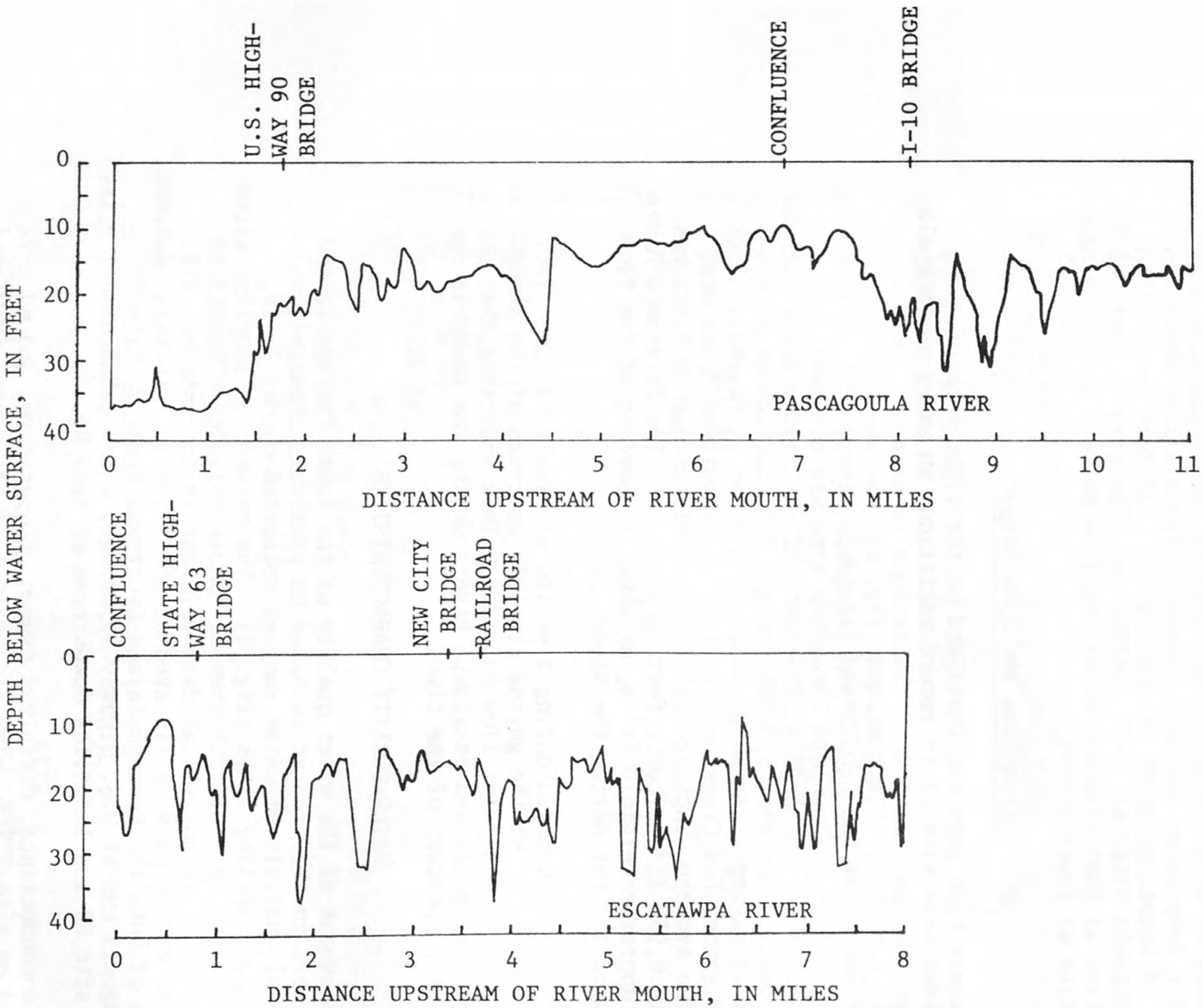

FIGURE 5.--LONGITUDINAL PROFILES OF PASCAGOULA AND ESCATAWPA RIVERS AT HIGH TIDE, MAY 19, 1977.

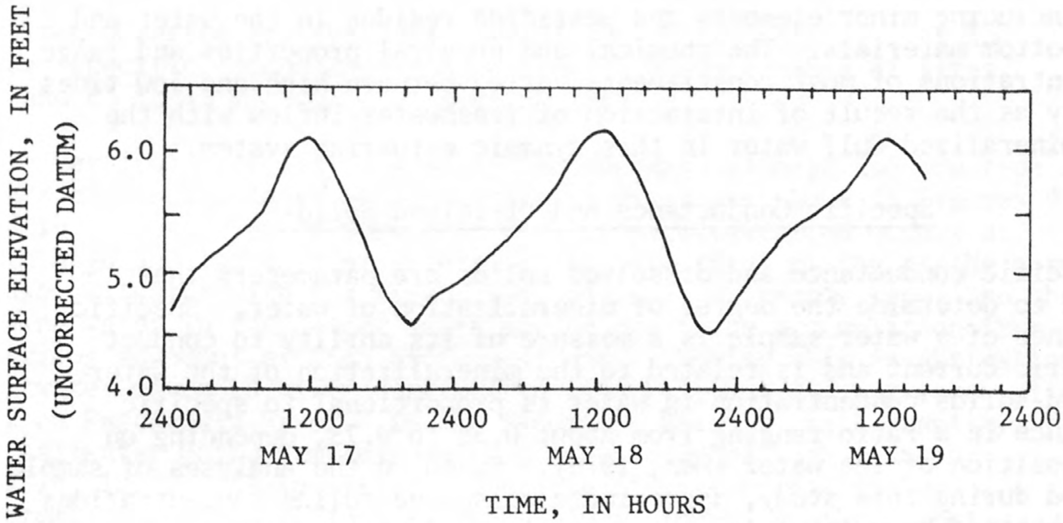

FIGURE 6.--TIDAL FLUCTUATIONS IN PASCAGOULA AND ESCATAWPA RIVERS, MAY 17-19, 1977, (FROM TEMPORARY GAGE LOCATED NEAR SITE E1).

General Composition and Salinity

Comprehensive analyses of water samples collected during low tide at sites P3 and E1 on May 19, 1977 (table 1), indicate that the waters are a mix of highly mineralized Gulf water and freshwater. The major dissolved inorganic constituents of the water at both sites are sodium (Na), magnesium (Mg), calcium (Ca), chloride (Cl), and sulfate (SO_4). Sodium, as Na + K, and chloride are the most abundant constituents and comprise about 85 percent of the dissolved-solids. Sodium was not determined but was computed as sodium plus potassium (Na + K). Sodium (as Na + K) was 4,570 mg/L (milligram per liter) at site P3 and 1,410 mg/L at site E1. The water, based on the dissolved-solids concentrations (table 1), is very saline at site P3 and moderately saline at site E1 (Kreiger and others, 1957).

Table 1 also gives the concentrations of other parameters at these sites, including minor elements and pesticide residue in the water and in the bottom materials. The chemical and physical properties and range of concentrations of most constituents varied between high and low tides primarily as the result of interaction of freshwater inflow with the highly mineralized Gulf water in this dynamic estuarine system.

Specific Conductance and Dissolved Solids

Specific conductance and dissolved solids are parameters that are used to determine the degree of mineralization of water. Specific conductance of a water sample is a measure of its ability to conduct an electric current and is related to the mineralization of the water. Dissolved-solids concentration in water is proportional to specific conductance in a ratio ranging from about 0.55 to 0.75, depending on the composition of the water (Hem, 1970). Based on the analyses of samples collected during this study, approximate dissolved-solids concentrations may be obtained by multiplying the specific conductance values of Pascagoula and Escatawpa Rivers shown in this report by 0.70 and 0.65 respectively.

The dissolved-solids concentrations in Pascagoula River at site P3 and Escatawpa River at site E1 were 14,500 mg/L and 4,600 mg/L respectively on May 19, 1977 (table 1). Although the dissolved-solids concentration at site E1 was significantly lower than that at site P3, the kinds of dissolved inorganic constituents are the same and the constituents that comprised the dissolved-solids concentrations were in essentially the same proportion. This would indicate that the volume of highly mineralized Gulf waters moving past site P3 was markedly higher than that at site E1.

Measurements of specific conductance were taken at the sampling sites on Pascagoula and Escatawpa Rivers at high and low tides on May 17 and 18, 1977. Measurements were taken vertically every 5 feet and about 1 foot below the water surface and 1 foot above the stream bottom. The results of near-surface and near-bottom measurements taken on May 17, 1977, at high and low tide are shown in figures 7 and 8. Specific conductance varied considerably, but generally increased with depth at each site and decreased in an upstream direction. The specific conductance of water near the bottom of Pascagoula River at high tide ranged from 32,000 micromhos per centimeter at 25° Celsius at site P1 to 58 micromhos at site P12. At low tide, specific conductance of water near the bottom ranged from 40,000 micromhos at site P1 (the maximum observed for the 2-day period) to 60 micromhos at site P12 (fig. 7).

Specific conductance of the water near the bottom of Escatawpa River at high tide ranged from 30,000 micromhos at site E1 (the maximum observed for the 2-day period) to 190 at site E9. At low tide, specific conductance ranged from 26,000 micromhos at sites E2 and E3 to 45 micromhos at site E9 (fig. 8).

Vertical profiles of specific conductance at high and low tide at sites on Pascagoula River and Escatawpa River are shown in figures 9 and 10. These figures show that density stratification occurs at both high and low tide at several sites. Vertical mixing of the more dense saltwater with the freshwater inflow is extremely slow, and the saline water in the deeper holes may be due to an accumulation from previous movement of high tides upstream. During this investigation saltwater moved 10 miles upstream to site P11, but did not reach site P12 on Pascagoula River. In the Escatawpa River a small quantity of saltwater moved 8 miles upstream to site E9 at high tide on May 18, 1977. The specific conductance at site E9 was 2,100 micromhos near the bottom depth and 150 micromhos at the 1-foot depth (table 1).

Dissolved Oxygen

Dissolved oxygen (DO) in the water is derived from the air and from aquatic plants by photosynthesis. DO, normally present in all surface waters, is essential to most chemical and biological processes. Biologically it is a key element for supporting aquatic life, and thus can serve as an index to water quality.

Under average hydrologic conditions, a minimum DO concentration of 4.0 mg/L or more is desirable for maintaining a good balance of aquatic life in surface waters. A DO of 3.0 mg/L or less is considered to be hazardous or lethal to many forms of aquatic life; however, industrial water users may find a reduction in DO beneficial in reducing corrosion (Brown, Skougstad, and Fishman, 1970).

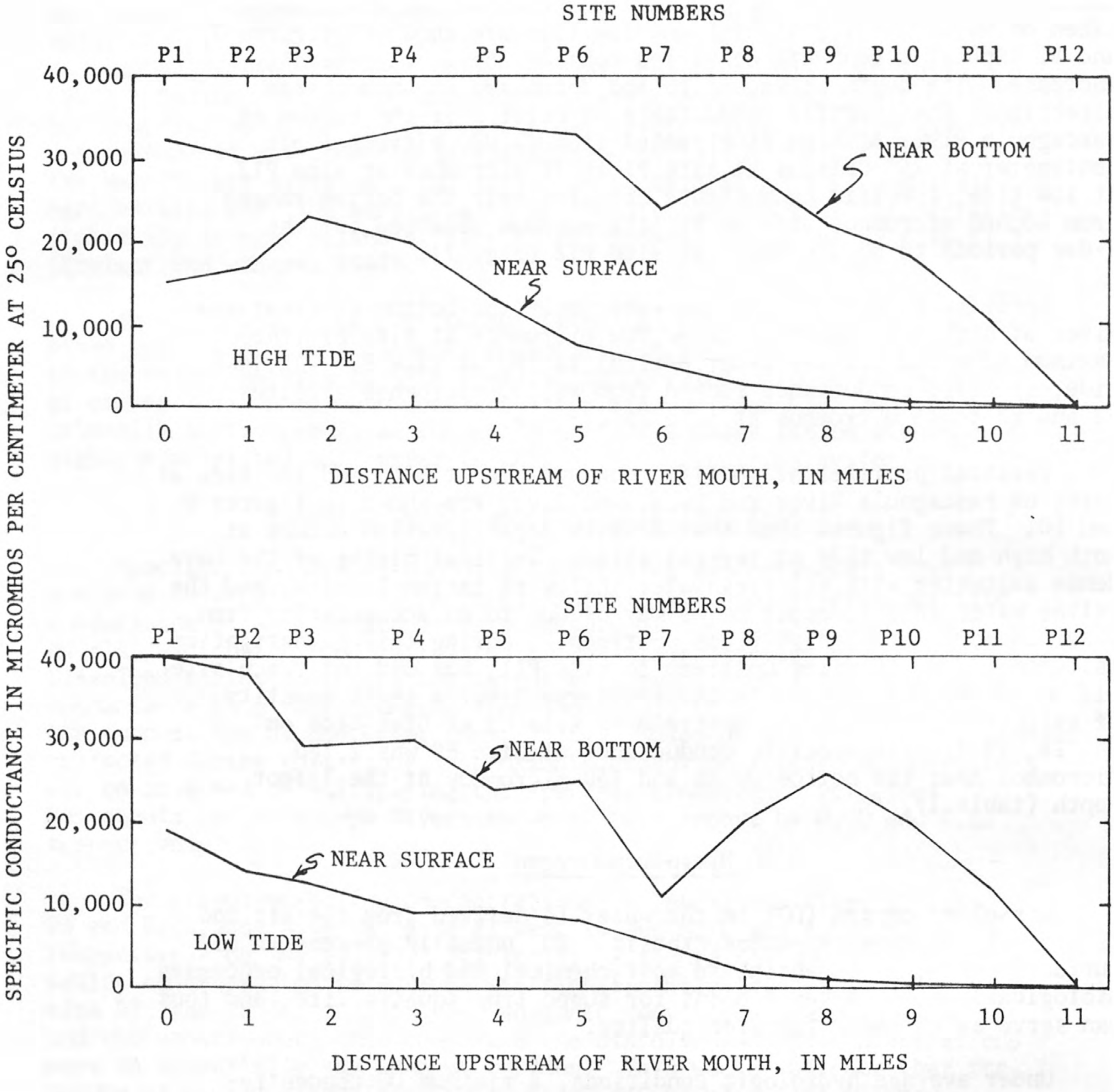

FIGURE 7.--SPECIFIC CONDUCTANCE PROFILES OF PASCAGOULA RIVER AT HIGH AND LOW TIDE, MAY 17. 1977.

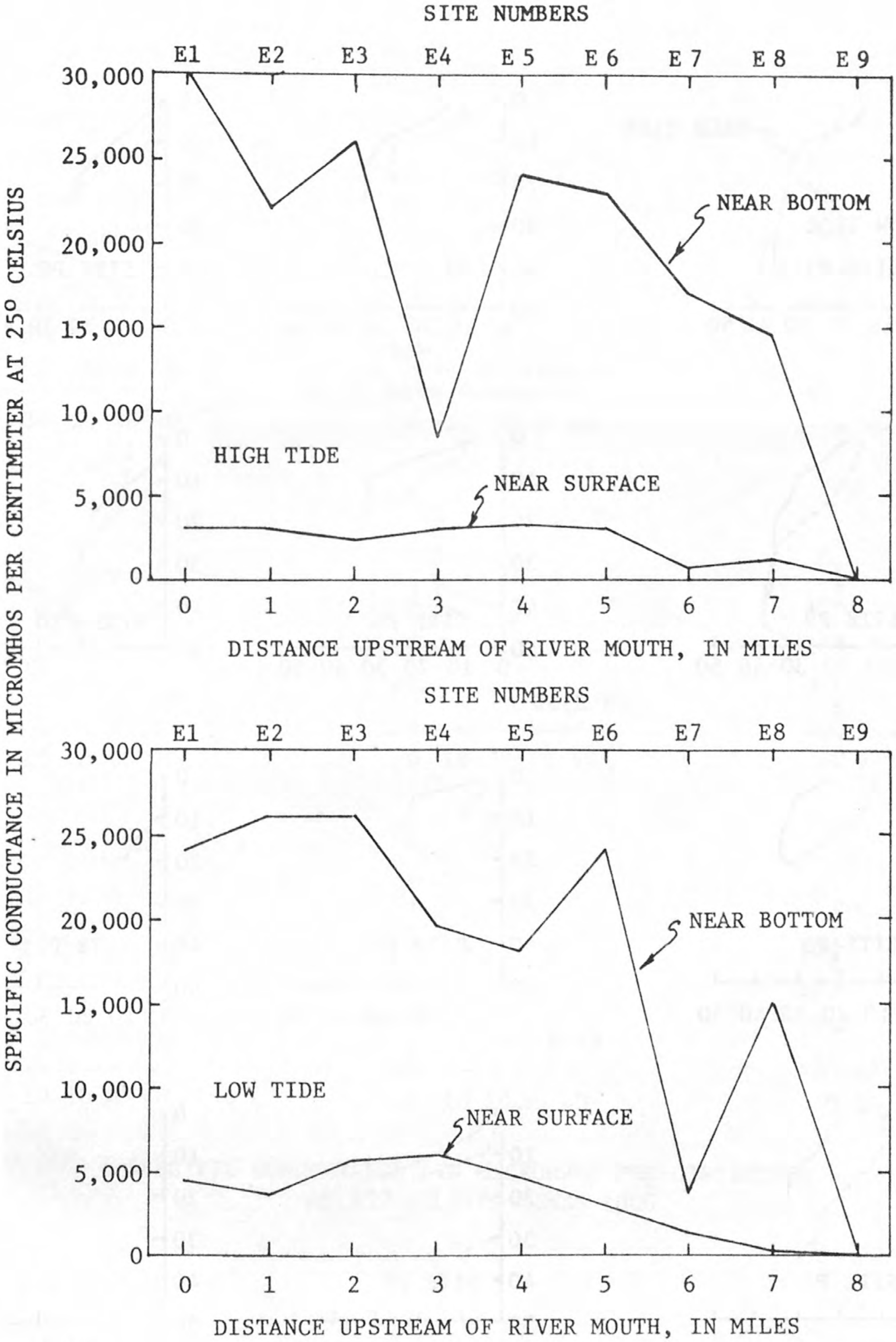

FIGURE 8.--SPECIFIC CONDUCTANCE PROFILES OF ESCATAWPA RIVER AT HIGH AND LOW TIDE, MAY 17, 1977.

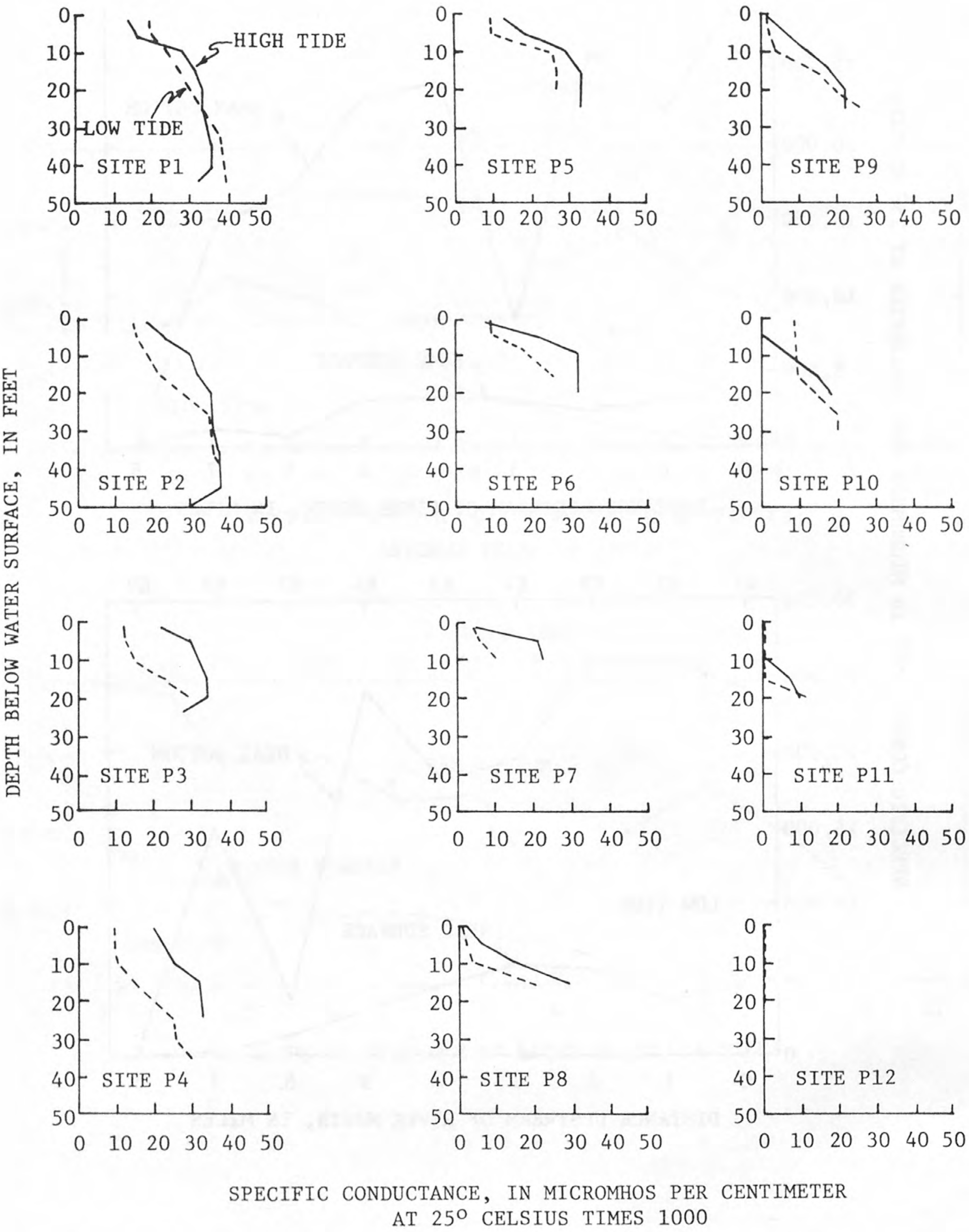

FIGURE 9.--VERTICAL PROFILES OF SPECIFIC CONDUCTANCE IN THE PASCAGOULA RIVER AT HIGH AND LOW TIDE, MAY 17, 1977.

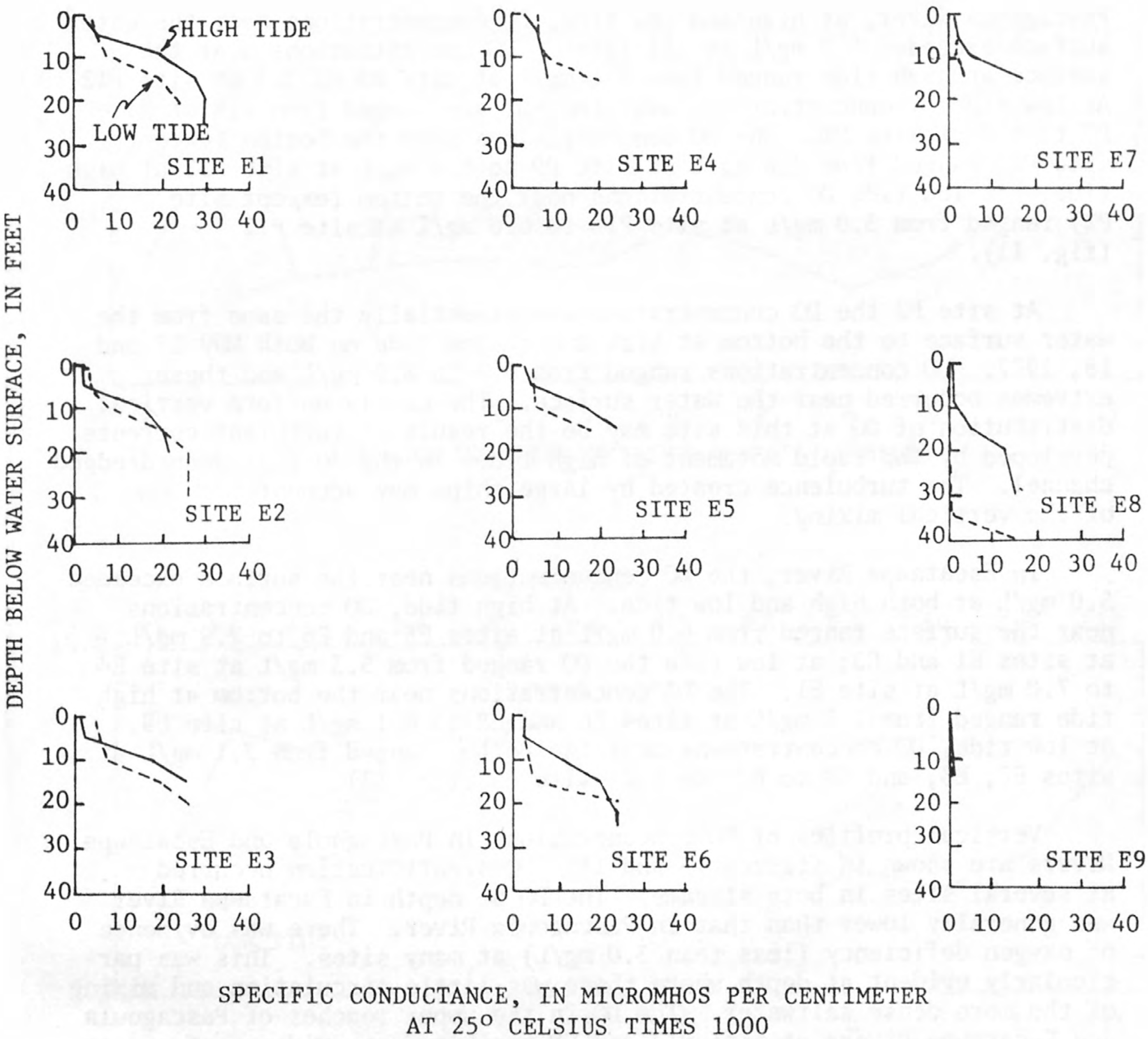

FIGURE 10.--VERTICAL PROFILES OF SPECIFIC CONDUCTANCE IN THE ESCATAWPA RIVER AT HIGH AND LOW TIDE, MAY 17, 1977.

The DO concentrations of water at each of the sampling sites on Pascagoula and Escatawpa Rivers were determined at high and low tides on May 17 and 18, 1977. The DO measurements at each site were taken vertically, every 5 feet, and at a point 1 foot below the water surface and 1 foot above the bottom. DO concentrations near the water surface were generally higher than near the bottom (figs. 11 and 12). In Pascagoula River, at high and low tide, DO concentrations near the water surface exceeded 5.0 mg/L at all sites. DO concentrations near the surface at high tide ranged from 5.1 mg/L at site P3 to 7.3 at site P12. At low tide DO concentrations near the surface ranged from 6.8 at site P7 to 8.2 at site P1. The DO concentrations near the bottom (except site P2) ranged from 2.6 mg/L at site P9 to 6.6 mg/L at site P12 at high tide. At low tide DO concentrations near the bottom (except site P2) ranged from 3.0 mg/L at site P10 to 6.6 mg/L at site P12 (fig. 11).

At site P2 the DO concentration was essentially the same from the water surface to the bottom at high and at low tide on both May 17 and 18, 1977. DO concentrations ranged from 6.7 to 8.0 mg/L and these extremes occurred near the water surface. The nearly uniform vertical distribution of DO at this site may be the result of turbulent currents developed by the rapid movement of high tides in the 40-foot deep dredged channel. The turbulence created by large ships may account for some of the vertical mixing.

In Escatawpa River, the DO concentrations near the surface exceeded 5.0 mg/L at both high and low tide. At high tide, DO concentrations near the surface ranged from 6.0 mg/L at sites E5 and E6 to 7.9 mg/L at sites E1 and E3; at low tide the DO ranged from 5.3 mg/L at site E4 to 7.0 mg/L at site E1. The DO concentrations near the bottom at high tide ranged from 2.5 mg/L at sites E6 and E8 to 6.1 mg/L at site E9. At low tide, DO concentrations near the bottom ranged from 2.1 mg/L at sites E2, E3, and E8 to 6.6 mg/L at site E9 (fig. 12).

Vertical profiles of DO concentrations in Pascagoula and Escatawpa Rivers are shown in figures 13 and 14. DO stratification occurred at several sites in both streams. The DO at depth in Escatawpa River was generally lower than that in Pascagoula River. There was evidence of oxygen deficiency (less than 3.0 mg/L) at many sites. This was particularly evident at depth where there was little circulation and mixing of the more dense saltwater. The DO in the upper reaches of Pascagoula and Escatawpa Rivers at site P12 and E9 exhibited no evidence of oxygen deficiency at high and low tides and may be considered representative of the DO of the freshwater entering the study area.

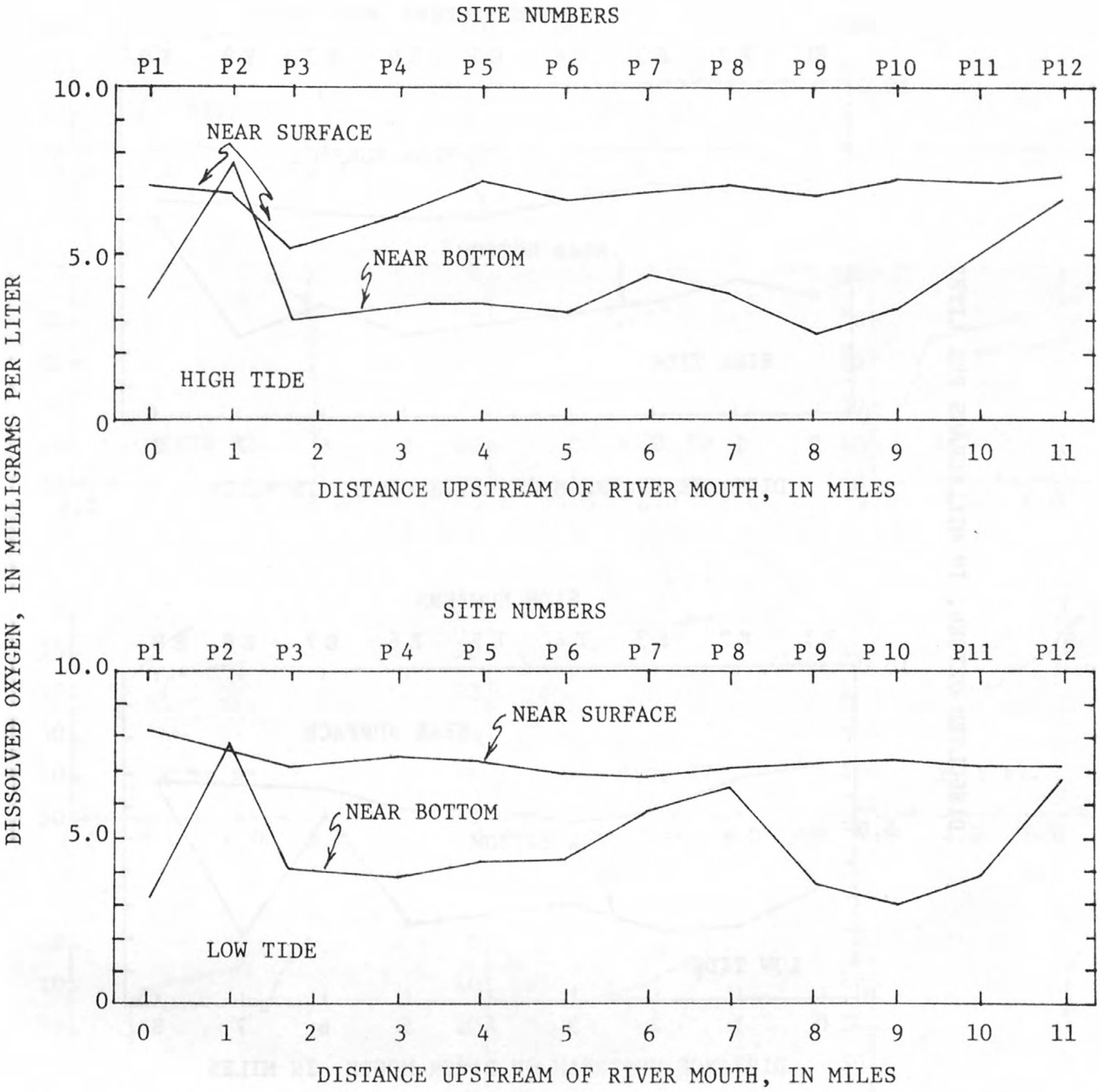

FIGURE 11.--DISSOLVED-OXYGEN PROFILES OF PASCAGOULA RIVER AT HIGH AND LOW TIDE, MAY 17, 1977.

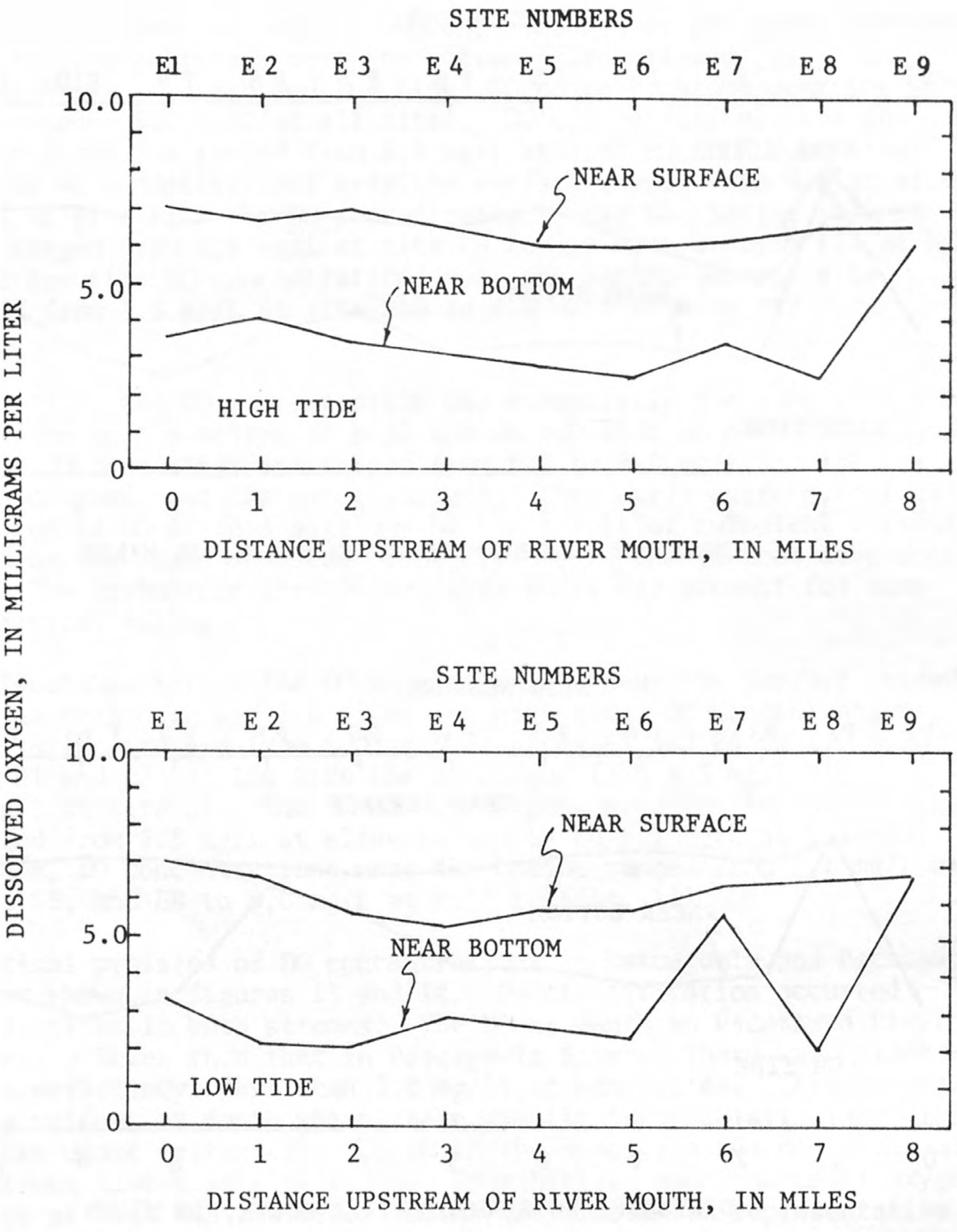

FIGURE 12.--DISSOLVED-OXYGEN PROFILES OF ESCATAWPA RIVER AT HIGH AND LOW TIDE, MAY 17, 1977.

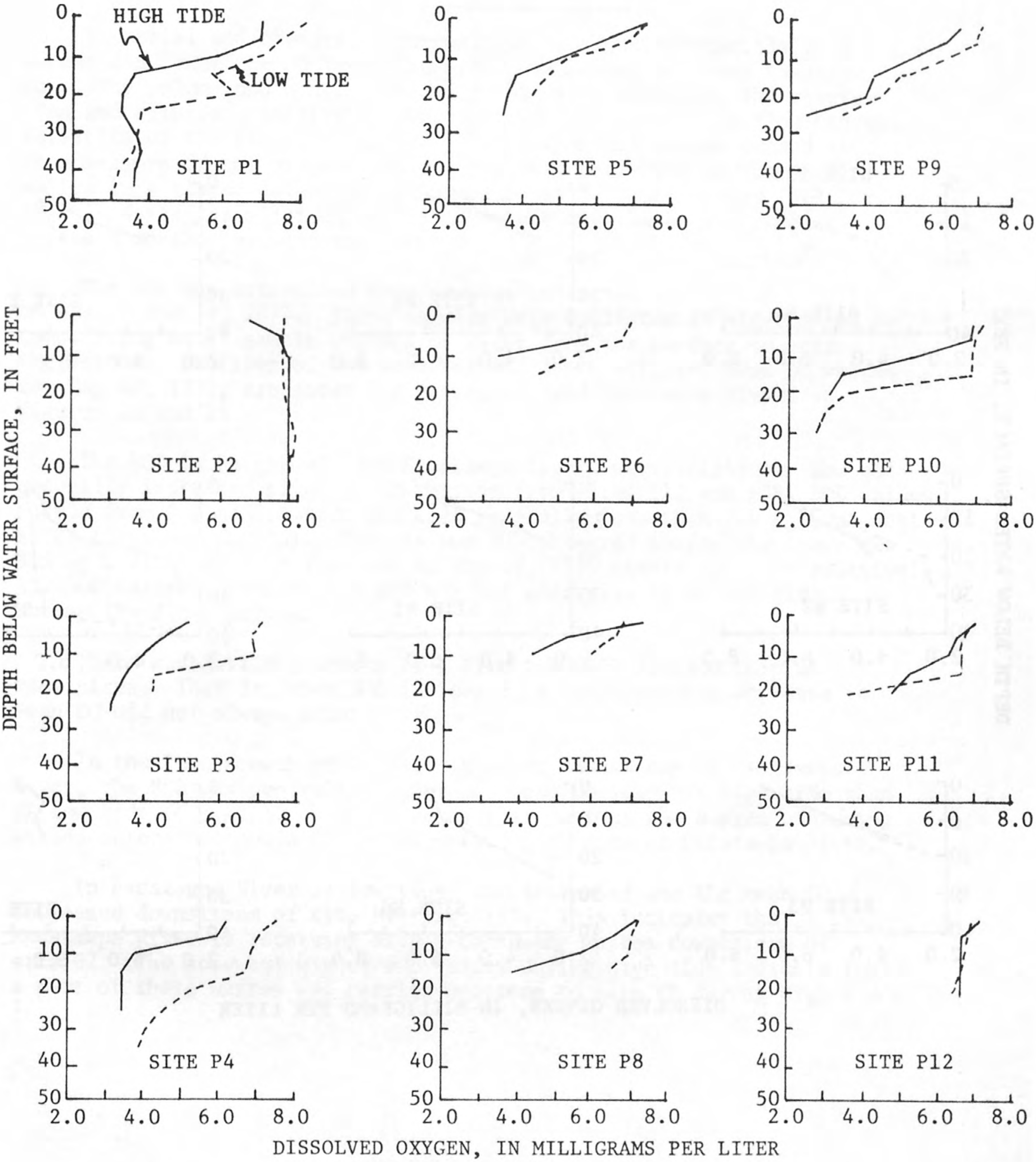

FIGURE 13.--VERITCAL PROFILES OF DISSOLVED OXYGEN IN THE PASCAGOULA RIVER AT HIGH AND LOW TIDE, MAY 17, 1977.

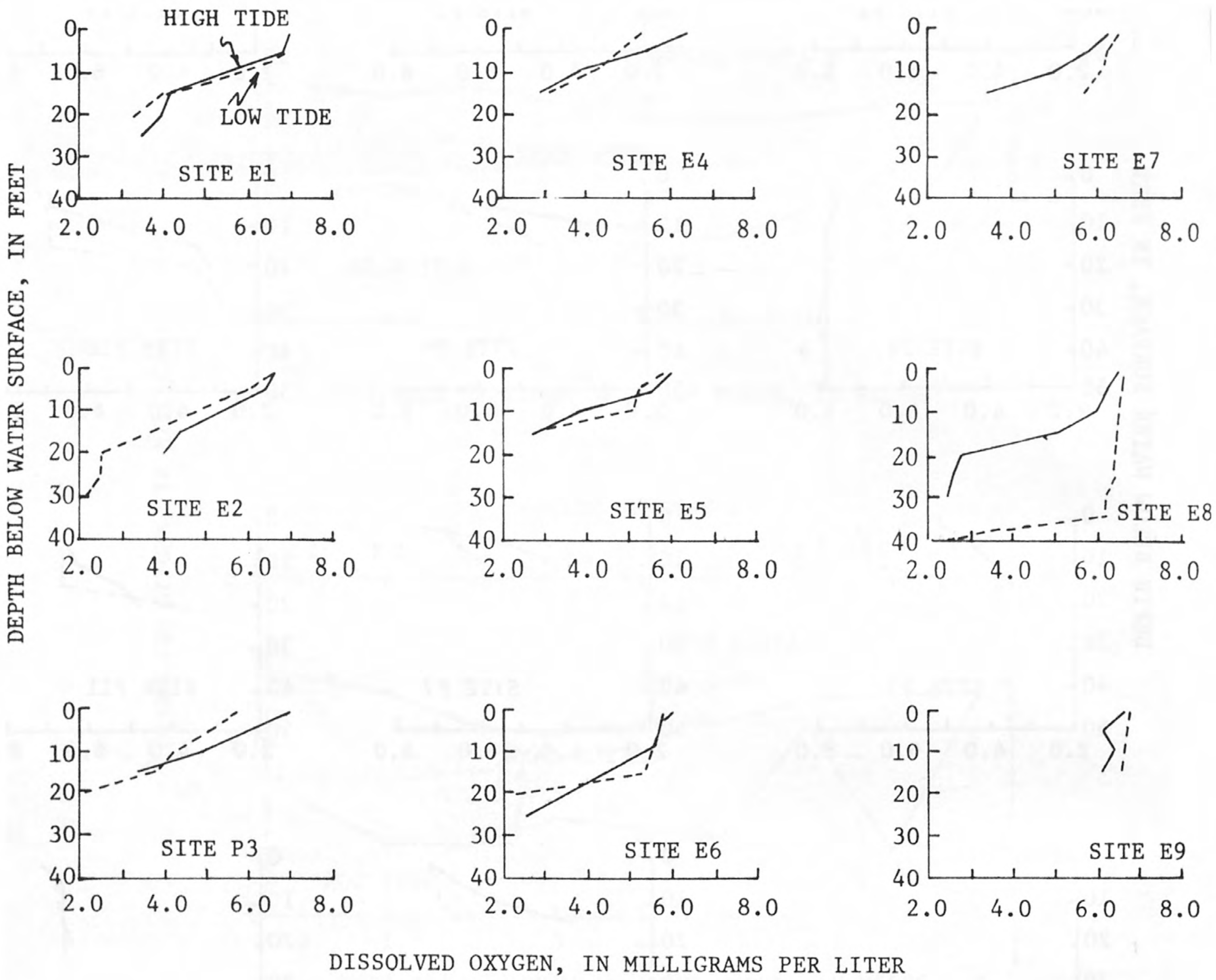

FIGURE 14.--VERTICAL PROFILES OF DISSOLVED OXYGEN IN THE ESCATAWPA RIVER AT HIGH AND LOW TIDE, MAY 17, 1977.

Biochemical Oxygen Demand

Bacterial and chemical decomposition of organic materials in a stream can lower the DO levels severely, depending on water temperature, the volume and concentration of the waste material, the reaeration and dilution capacity of the receiving water, and the flow characteristics of the receiving water. The biochemical oxygen demand (BOD) is a measure of the oxygen required for this bacterial and chemical action in a closed water sample incubated at 20°C for 5 days (Welcher, 1963). Waste assimilation capacity of receiving water is commonly assessed on the basis of the BOD.

The BOD was determined from samples collected at high and low tides on May 17 and 18, 1977. These samples were collected at mid-channel by compositing equal sample volumes of water from the surface to near the bottom. Profiles of BOD analyses and depth-weighted mean DO values for May 17, 1977, are shown for Pascagoula and Escatawpa Rivers in figures 15 and 16.

The BOD in Pascagoula and Escatawpa Rivers were relatively low but generally increased slightly downstream from sites P12 and E9. BOD values ranged from 0.1 to 2.6 mg/L and were generally less than 2.0 mg/L at most sites (figs. 15 and 16). The maximum BOD observed during the study was 3.5 mg/L at site P1 at low tide on May 18, 1977 (table 1). The relatively low BOD values indicate that BOD was not excessive in either river during the 2-day period.

There was little evidence of a direct BOD-DO relationship at most sites. That is, when BOD increased, a corresponding decrease in mean DO did not always occur.

In the lower reach of Pascagoula River downstream of Escatawpa River, the BOD was generally higher and mean DO lower at high tide than at low tide (fig. 15). This suggests that most of the oxygen consuming wastes enter Pascagoula River below the confluence of Escatawpa River.

In Escatawpa River at low tide, BOD increased and the mean DO decreased downstream of site E7 (fig. 16). This indicates that Escatawpa River is receiving oxygen-consuming wastes downstream of site E7. The somewhat higher BOD values during high tide indicate that a part of these wastes was carried upstream to site E8 during high tides (fig. 16).

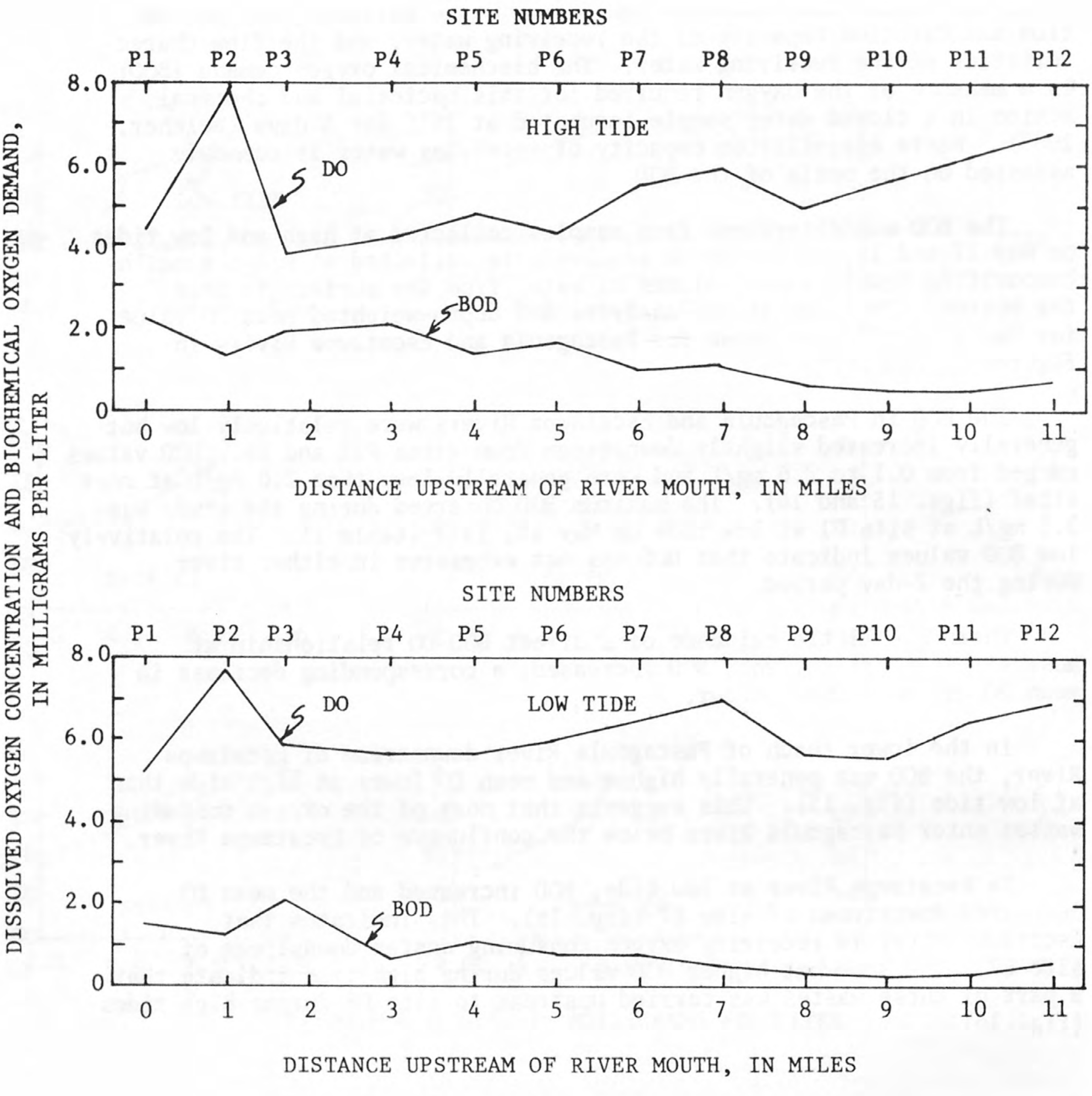

FIGURE 15.--PROFILES OF DISSOLVED OXYGEN (DO), AND BIOCHEMICAL OXYGEN DEMAND (BOD) IN THE PASCAGOULA RIVER AT HIGH AND LOW TIDE, MAY 17, 1977, (DO CONCENTRATIONS ARE DEPTH-WEIGHTED MEAN VALUES).

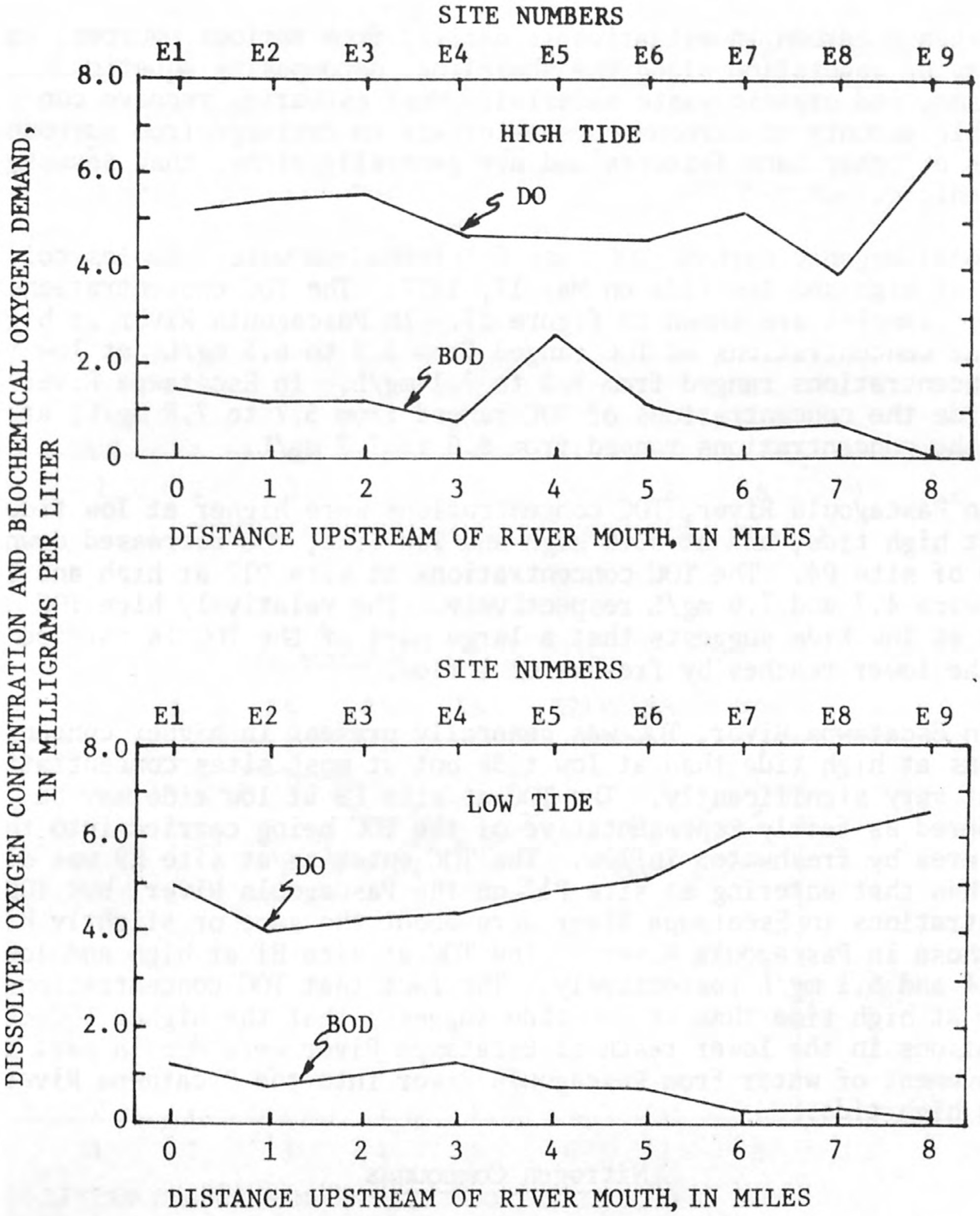

FIGURE 16.--PROFILES OF DISSOLVED OXYGEN (DO) AND BIOCHEMICAL OXYGEN DEMAND (BOD) IN ESCATAWPA RIVER AT HIGH AND LOW TIDE, MAY 17, 1977, (DO CONCENTRATIONS ARE DEPTH-WEIGHTED MEAN VALUES).

Organic Carbon

Organic carbon in estuaries is derived from various sources, such as decaying vegetation along the shoreline, decomposing aquatic organisms, and organic waste material. Most estuaries receive considerable amounts of carbonaceous materials in drainage from surrounding marshes or other land features and are generally richer than seawater in organic carbon.

Total organic carbon (TOC) was determined in water samples collected at high and low tide on May 17, 1977. The TOC concentrations in these samples are shown in figure 17. In Pascagoula River at high tide the concentrations of TOC ranged from 3.9 to 6.5 mg/L; at low tide, the concentrations ranged from 5.2 to 7.1 mg/L. In Escatawpa River at high tide the concentrations of TOC ranged from 5.7 to 7.8 mg/L; at low tide, the concentrations ranged from 6.0 to 7.7 mg/L.

In Pascagoula River, TOC concentrations were higher at low tide than at high tide, and at both high and low tide, TOC decreased downstream of site P4. The TOC concentrations at site P12 at high and low tides were 4.7 and 7.0 mg/L respectively. The relatively high TOC at P12 at low tide suggests that a large part of the TOC is carried into the lower reaches by freshwater inflow.

In Escatawpa River, TOC was generally present in higher concentrations at high tide than at low tide but at most sites concentrations did not vary significantly. The TOC at site E9 at low tide may be considered as fairly representative of the TOC being carried into the study area by freshwater inflow. The TOC entering at site E9 was slightly less than that entering at site P12 on the Pascagoula River, but TOC concentrations in Escatawpa River were about the same or slightly higher than those in Pascagoula River. The TOC at site E1 at high and low tide was 7.4 and 6.1 mg/L respectively. The fact that TOC concentrations were higher at high tide than at low tide suggests that the higher TOC concentrations in the lower reach of Escatawpa River were due in part to the movement of water from Pascagoula River into the Escatawpa River during high tide.

Nitrogen Compounds

The decomposition of nitrogenous material can exert a profound effect on water quality. The kinds and quantities of the various nitrogen species in water indicate the stage of decomposition. Bacterial decomposition of organic nitrogen produces ammonia. Nitrification of ammonia produces nitrite (NO_2) and finally nitrate (NO_3).

Water samples were collected at high and low tides for analyses of nitrogen (N) species at all sites on May 17 and 18, 1977. Nitrite plus nitrate (NO_2 + NO_3) and organic nitrogen analyses were performed only on samples collected on May 17.

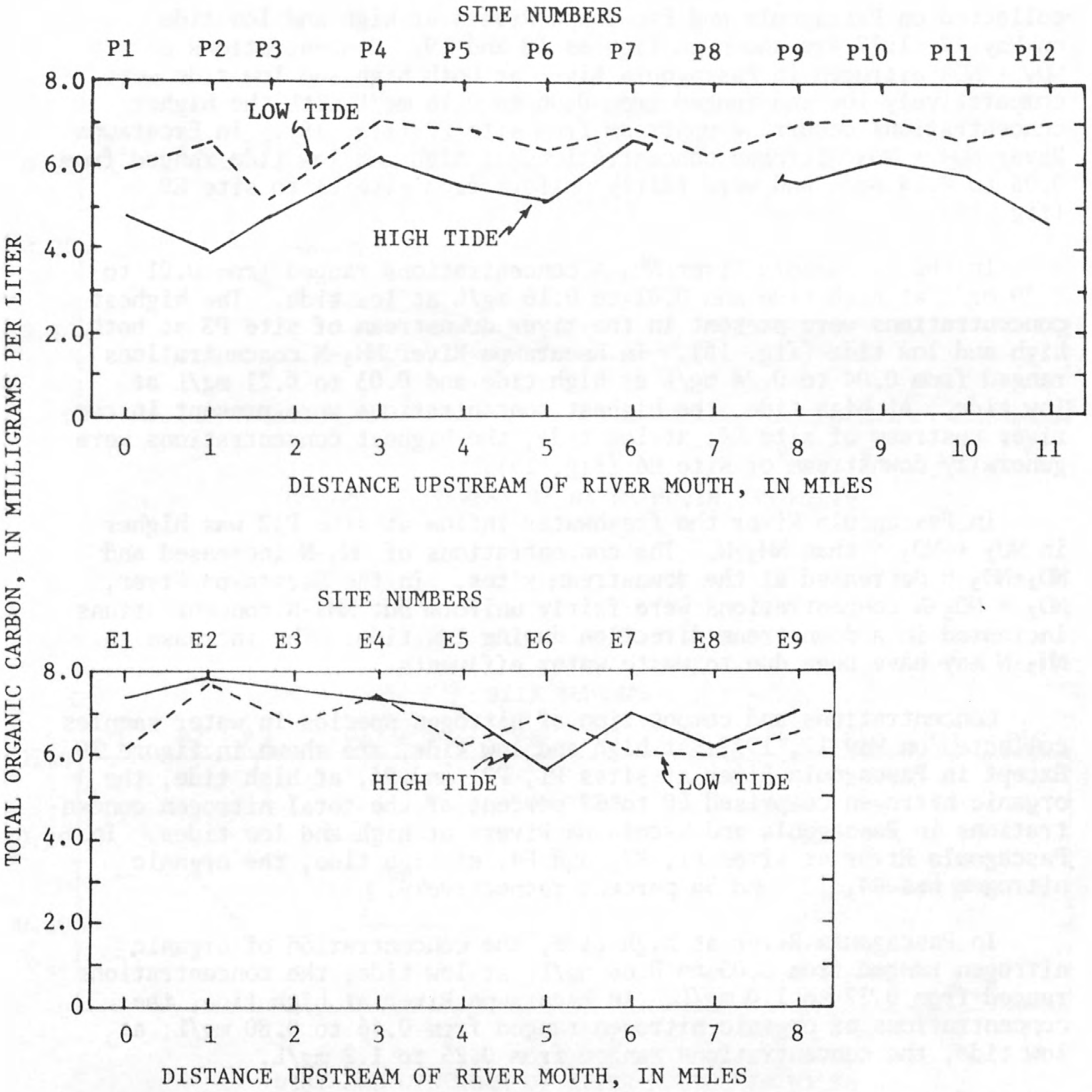

FIGURE 17.--PROFILES OF TOTAL ORGANIC CARBON IN PASCAGOULA AND ESCATAWPA RIVERS AT HIGH AND LOW TIDE, MAY 17, 1977.

Concentrations of NO_2 + NO_3 and ammonia (NH_3) nitrogen in the samples collected on Pascagoula and Escatawpa Rivers at high and low tide on May 17, 1977 are shown in figures 18 and 19. Concentrations of NO_2 + NO_3 nitrogen in Pascagoula River at both high and low tide were comparatively low and ranged from 0.06 to 0.16 mg/L with the higher concentrations occurring upstream from site P7 (fig. 18). In Escatawpa River NO_2 + NO_3 nitrogen concentrations at high and low tide ranged from 0.08 to 0.14 mg/L and were fairly uniform from site E1 to site E9 (fig. 19).

In the Pascagoula River NH_3-N concentrations ranged from 0.01 to 0.29 mg/L at high tide and 0.01 to 0.16 mg/L at low tide. The highest concentrations were present in the river downstream of site P3 at both high and low tide (fig. 18). In Escatawpa River NH_3-N concentrations ranged from 0.04 to 0.24 mg/L at high tide and 0.03 to 0.21 mg/L at low tide. At high tide, the highest concentrations were present in the river upstream of site E4; at low tide, the highest concentrations were generally downstream of site E6 (fig. 19).

In Pascagoula River the freshwater inflow at site P12 was higher in NO_2 + NO_3-N than NH_3-N. The concentrations of NH_3-N increased and NO_2+NO_3-N decreased at the downstream sites. In the Escatawpa River, NO_2 + NO_3-N concentrations were fairly uniform but NH_3-N concentrations increased in a downstream direction during low tide. The increase in NH_3-N may have been due to waste water effluents.

Concentrations and composition of nitrogen species in water samples collected on May 17, 1977, at high and low tide, are shown in figure 20. Except in Pascagoula River at sites P1, P2, and P4, at high tide, the organic nitrogen comprised 60 to 87 percent of the total nitrogen concentrations in Pascagoula and Escatawpa Rivers at high and low tides. In Pascagoula River at sites P1, P2, and P4, at high tide, the organic nitrogen was 44, 12, and 56 percent respectively.

In Pascagoula River at high tide, the concentration of organic nitrogen ranged from 0.05 to 0.60 mg/L; at low tide, the concentrations ranged from 0.37 to 1.0 mg/L. In Escatawpa River at high tide, the concentrations of organic nitrogen ranged from 0.46 to 0.80 mg/L; at low tide, the concentrations ranged from 0.25 to 1.2 mg/L.

The inorganic nitrogen (NO_2, NO_3, and NH_3) in Pascagoula River at both high and low tide ranged from 0.15 to 0.36 mg/L, and in Escatawpa River the range of inorganic nitrogen was 0.14 to 0.33 mg/L (fig. 20).

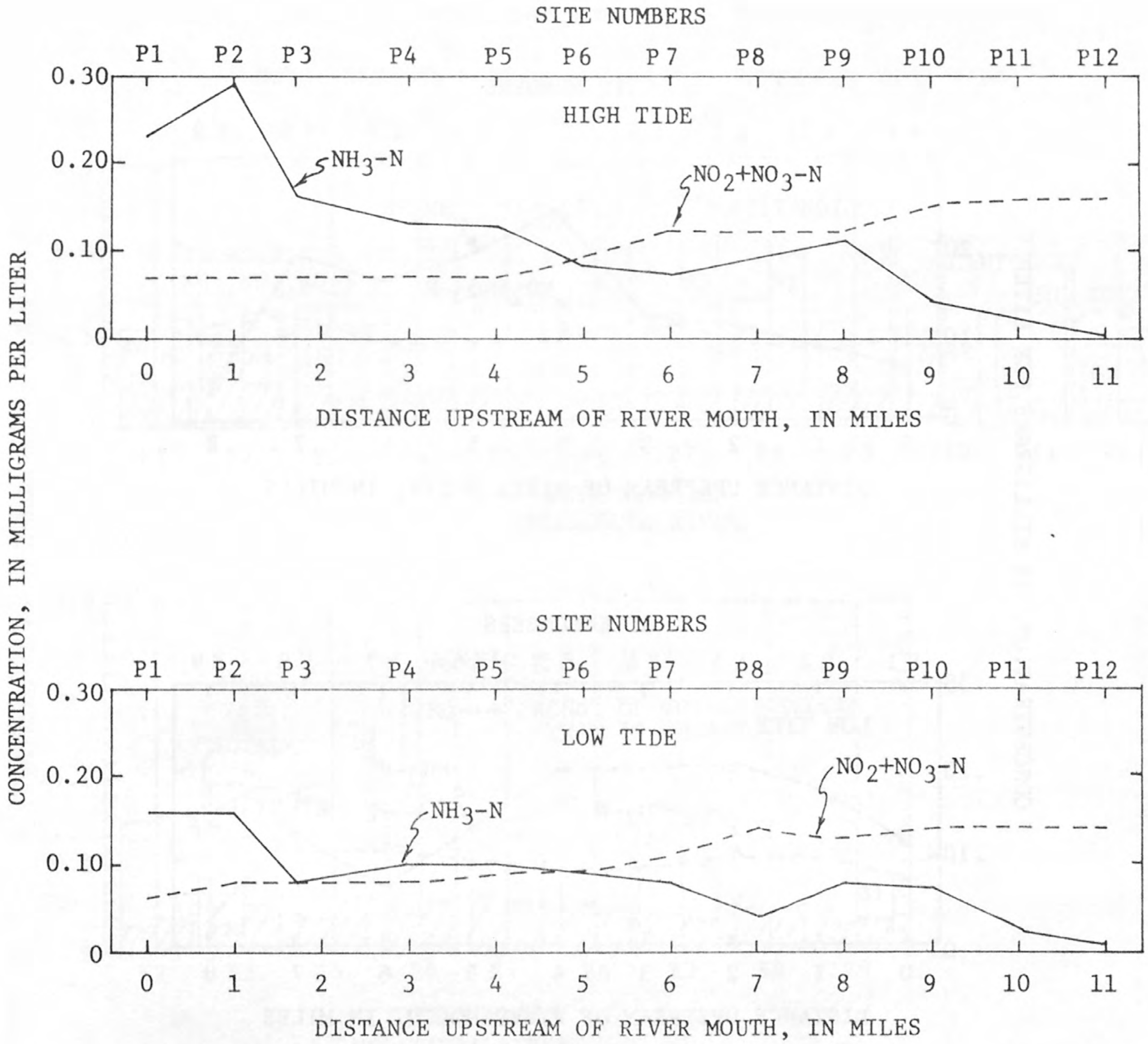

FIGURE 18.--PROFILES OF NITRITE PLUS NITRATE (NO_2+NO_3) AND AMMONIA (NH_3) NITROGEN IN PASCAGOULA RIVER AT HIGH AND LOW TIDE, MAY 17, 1977.

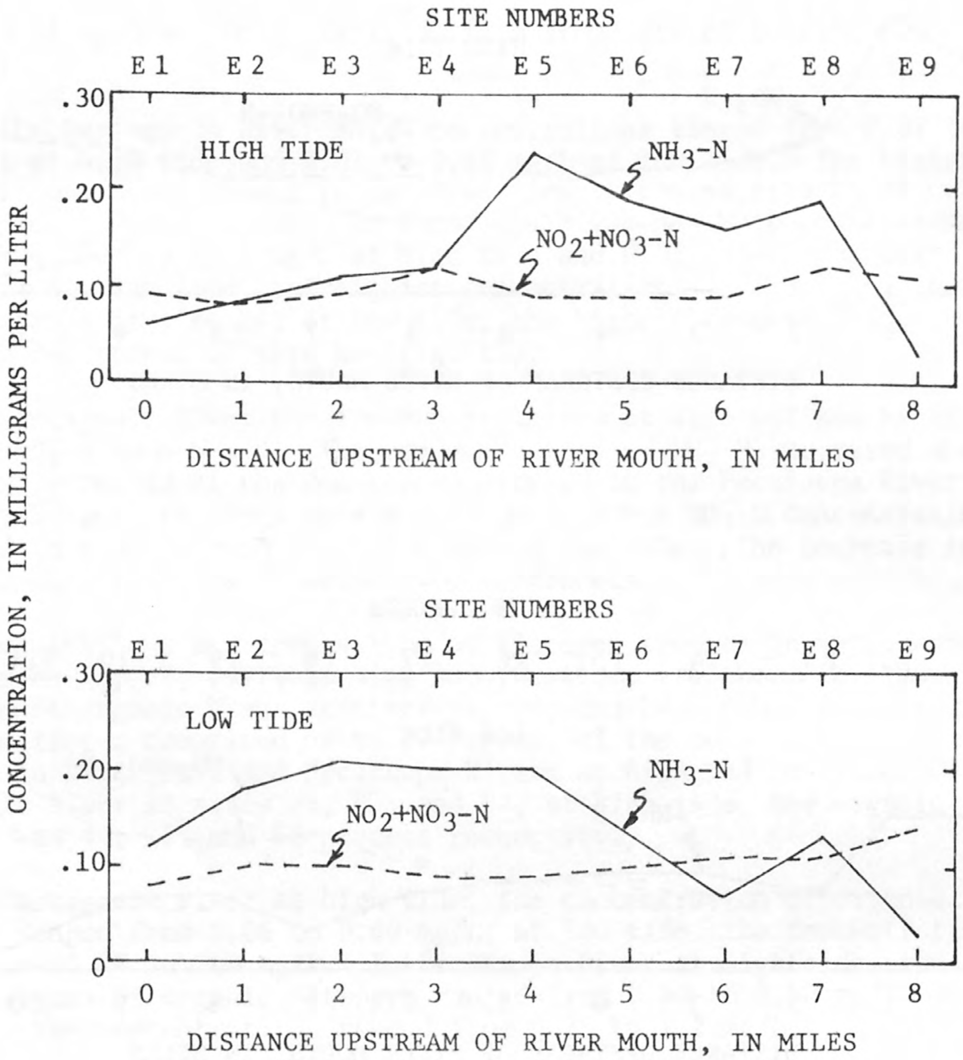

FIGURE 19.--PROFILES OF NITRITE PLUS NITRATE (NO_2+NO_3) AND AMMONIA (NH_3) NITROGEN IN ESCATAWPA RIVER AT HIGH AND LOW TIDE, MAY 17, 1977.

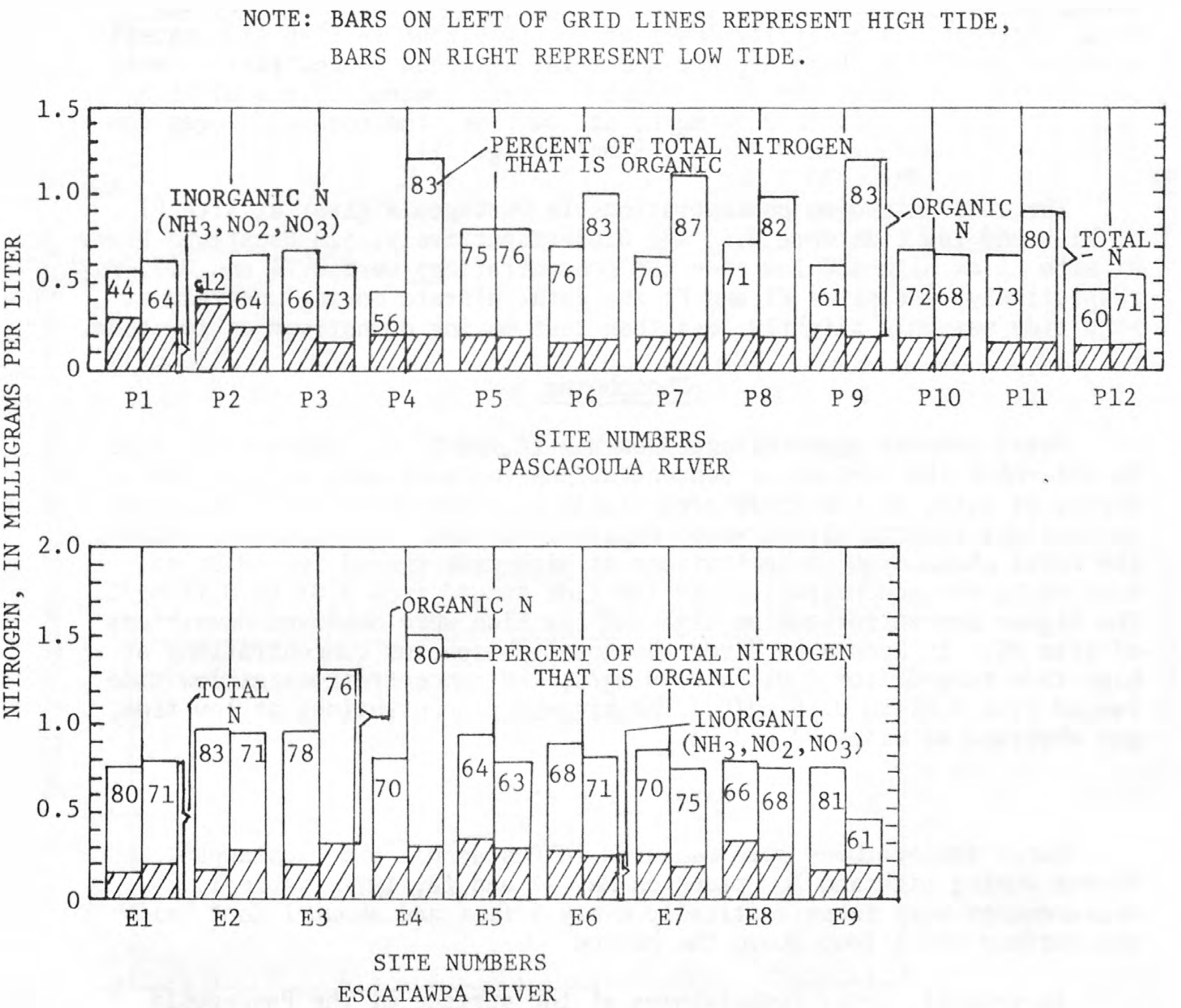

FIGURE 20.--CONCENTRATIONS AND COMPOSITION OF NITROGEN SPECIES IN THE PASCAGOULA AND ESCATAWPA RIVERS AT HIGH AND LOW TIDE, MAY 17, 1977.

Total nitrogen concentration of samples collected from Pascagoula and Escatawpa Rivers on May 17, 1977, at high and low tide, are shown in figure 21. In Pascagoula River, the total nitrogen concentrations were generally higher at low tide than at high tide with the highest of the concentrations occurring between sites P4 and P9. The total nitrogen concentration at high tide ranged from 0.41 to 0.80 mg/L; at low tide, the concentrations ranged from 0.52 to 1.2 mg/L. In Escatawpa River the total nitrogen was generally lower at low tide than at high tide except at sites E3 and E4 where organic and total nitrogen concentrations were relatively high (fig. 20). The total nitrogen concentrations at high tide ranged from 0.74 to 0.96 mg/L; at low tide, the total nitrogen concentrations ranged from 0.42 to 1.5 mg/L (fig. 21).

The total nitrogen concentrations in Pascagoula River at site P1 at high and low tide were 0.54 and 0.61 respectively. In Escatawpa River at site E1 at high and low tide the concentrations were 0.74 and 0.77 mg/L, respectively. At sites P1 and E1 the total nitrate moving upstream at high tide was only slightly less than that moving downstream at low tide.

Phosphorus

Water samples were collected on May 17, 1977, at high and low tide, to determine the phosphorus concentrations in Pascagoula and Escatawpa Rivers at sites in the study area (table 1). The total phosphorus concentrations in both rivers were comparatively low. In Pascagoula River, the total phosphorus concentrations at high tide ranged from 0.04 to 0.09 mg/L; the concentrations at low tide ranged from 0.03 to 0.11 mg/L. The higher concentrations at high and low tide were observed downstream of site P5. In Escatawpa River the total phosphorus concentrations at high tide ranged from 0.01 to 0.09 mg/L; the concentrations at low tide ranged from 0.01 to 0.16 mg/L. The highest concentrations at low tide was observed at sites E2 and E3.

Water Temperature

Water temperatures were measured in Pascagoula and Escatawpa Rivers during high and low tides on May 17 and 18, 1977 (table 1). Measurements were taken vertically every 5 feet and about 1 foot below the surface and 1 foot above the bottom.

In general, water temperatures at the surface of the Pascagoula River were slightly higher at low tide than at high tide, probably because the water temperature measurements during low tide were taken during the evening several hours after exposure to sunlight and to warmer afternoon air temperatures.

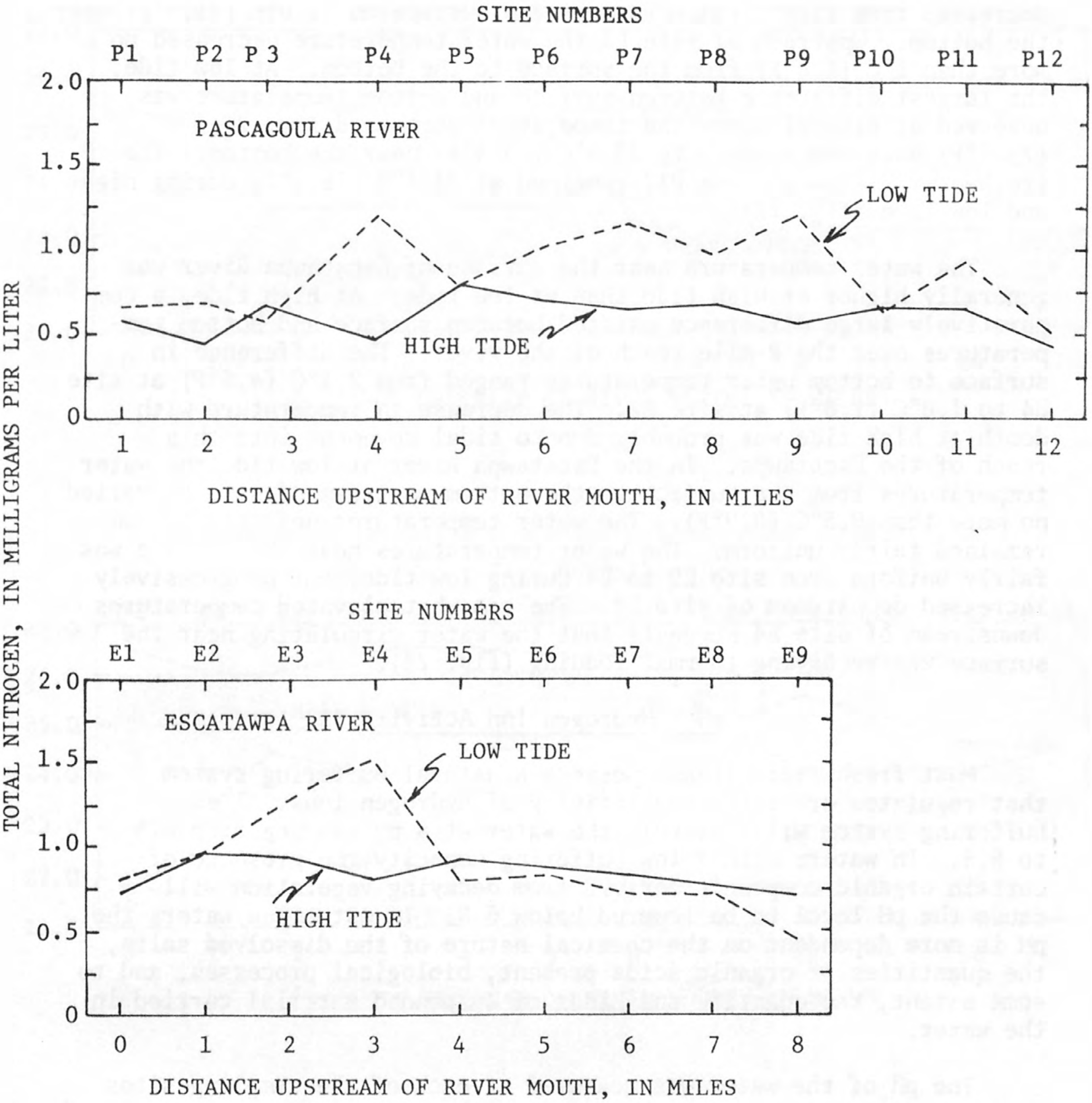

FIGURE 21.--PROFILES OF TOTAL NITROGEN IN PASCAGOULA AND ESCATAWPA RIVERS AT HIGH AND LOW TIDE, MAY 17, 1977.

Water temperature in the Pascagoula River at most sites decreased from the surface to the bottom and exhibited greater variation from the surface to the bottom at low tide than at high tide. At site P2 in the deeper part of the river, the water temperature at high tide decreased from 25.0°C (77.0°F) near the surface to 22.0°C (71.6°F) near the bottom. Upstream of site P3 the water temperature decreased no more than 1°C (1.8°F) from the surface to the bottom. At low tide, the largest difference between surface and bottom temperature was observed at site P1 where the temperature decreased from 26.5°C (79.7°F) near the surface to 23.0°C (73.4°F) near the bottom. The freshwater inflow at site P12 remained at 24.5°C (76.1°F) during high and low tide (fig. 22).

The water temperature near the surface of Escatawpa River was generally higher at high tide than at low tide. At high tide, a comparatively large difference existed between surface and bottom temperatures over the 8-mile reach of the river. The difference in surface to bottom water temperatures ranged from 2.5°C (4.5°F) at site E4 to 1.0°C (1.8°F) at site E8. The decrease in temperature with depth at high tide was probably due to tidal movement into this reach of the Escatawpa. In the Escatawpa River at low tide the water temperatures from the surface to the bottom upstream of site E4 varied no more than 0.5°C (0.9°F). The water temperatures near the bottom remained fairly uniform. The water temperatures near the surface was fairly uniform from site E9 to E4 during low tide, but progressively increased downstream of site E4. The somewhat elevated temperatures downstream of site E4 suggests that the water circulating near the surface was receiving thermal loading (fig. 23).

pH - Hydrogen Ion Activity

Most freshwater streams possess a natural buffering system that regulates or limits the activity of hydrogen ions. The buffering system will maintain the water at a pH ranging from 6.5 to 8.5. In waters with a low buffering capacity the presence of certain organic compounds derived from decaying vegetation will cause the pH level to be lowered below 6.5. In estuarine waters the pH is more dependent on the chemical nature of the dissolved salts, the quantities of organic acids present, biological processes, and to some extent, the quantity and kinds of suspended material carried in the water.

The pH of the water was measured at each of the sampling sites on Pascagoula and Escatawpa Rivers at high and low tides on May 17 and 18, 1977 (table 1). The pH measurements at each site were taken vertically every 5 feet and at a point 1 foot below the water surface and 1 foot above the bottom. Profiles of near-surface, near-bottom, and minimum observed pH measurements taken on May 17, 1977, at high and low tide, are shown in figure 24. The pH near the water surface did not vary widely from that near the bottom at any site and generally increased in a downstream direction in both the Pascagoula and Escatawpa Rivers.

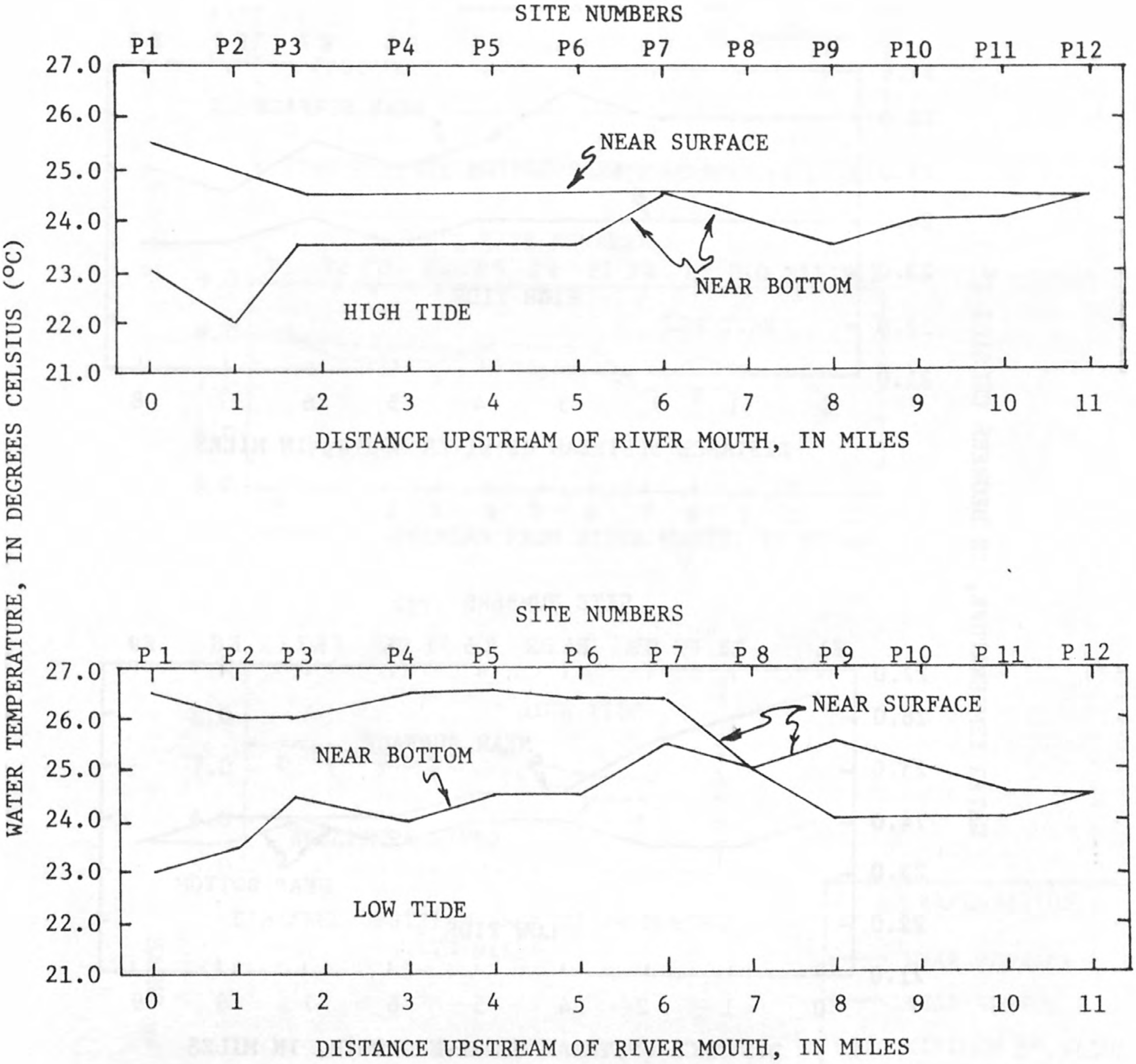

FIGURE 22.--PROFILES OF WATER TEMPERATURE OF PASCAGOULA RIVER AT HIGH AND LOW TIDE, MAY 17, 1977.

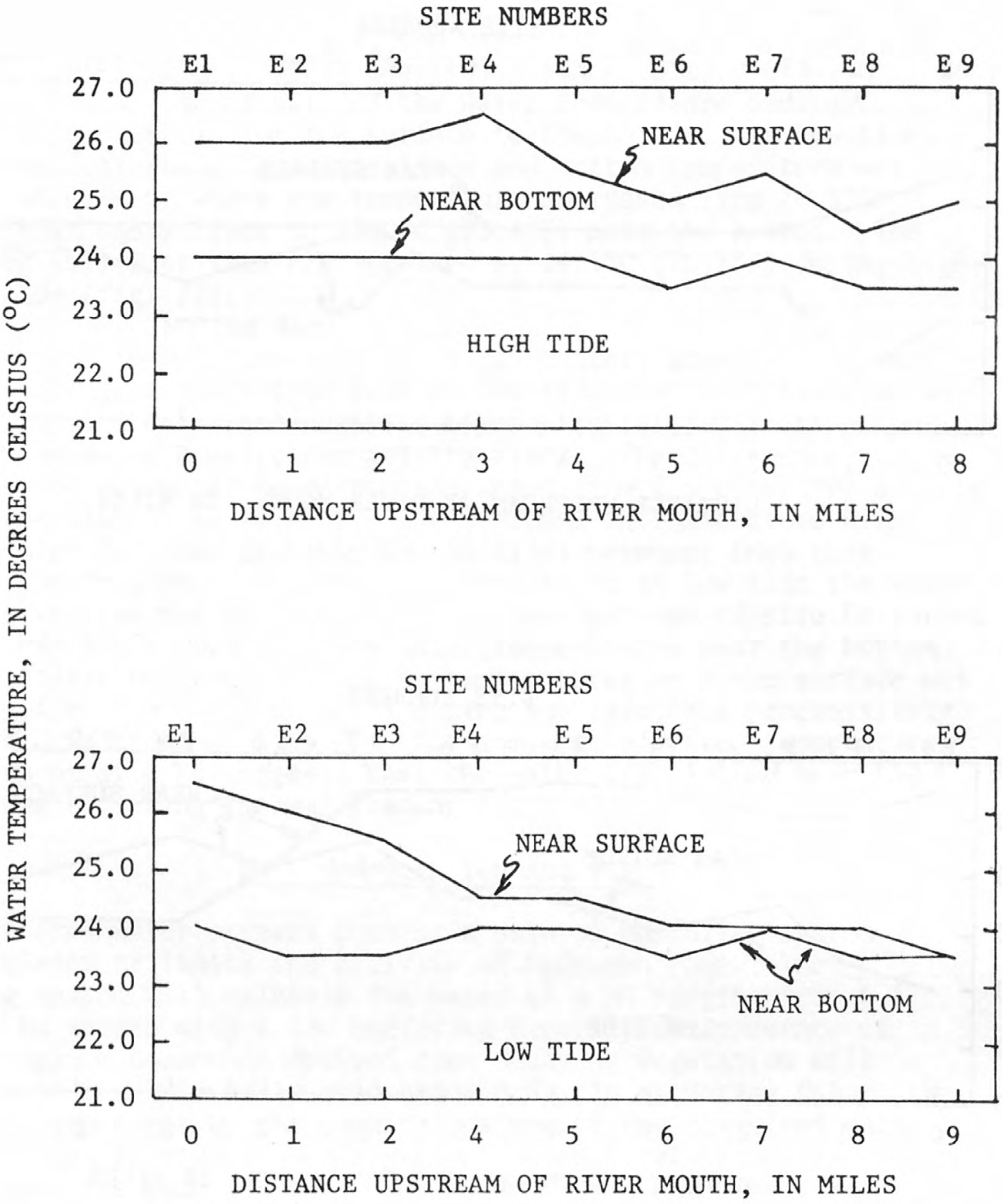

FIGURE 23.--PROFILES OF WATER TEMPERATURE OF ESCATAWPA RIVER AT HIGH AND LOW TIDE, MAY 17, 1977.

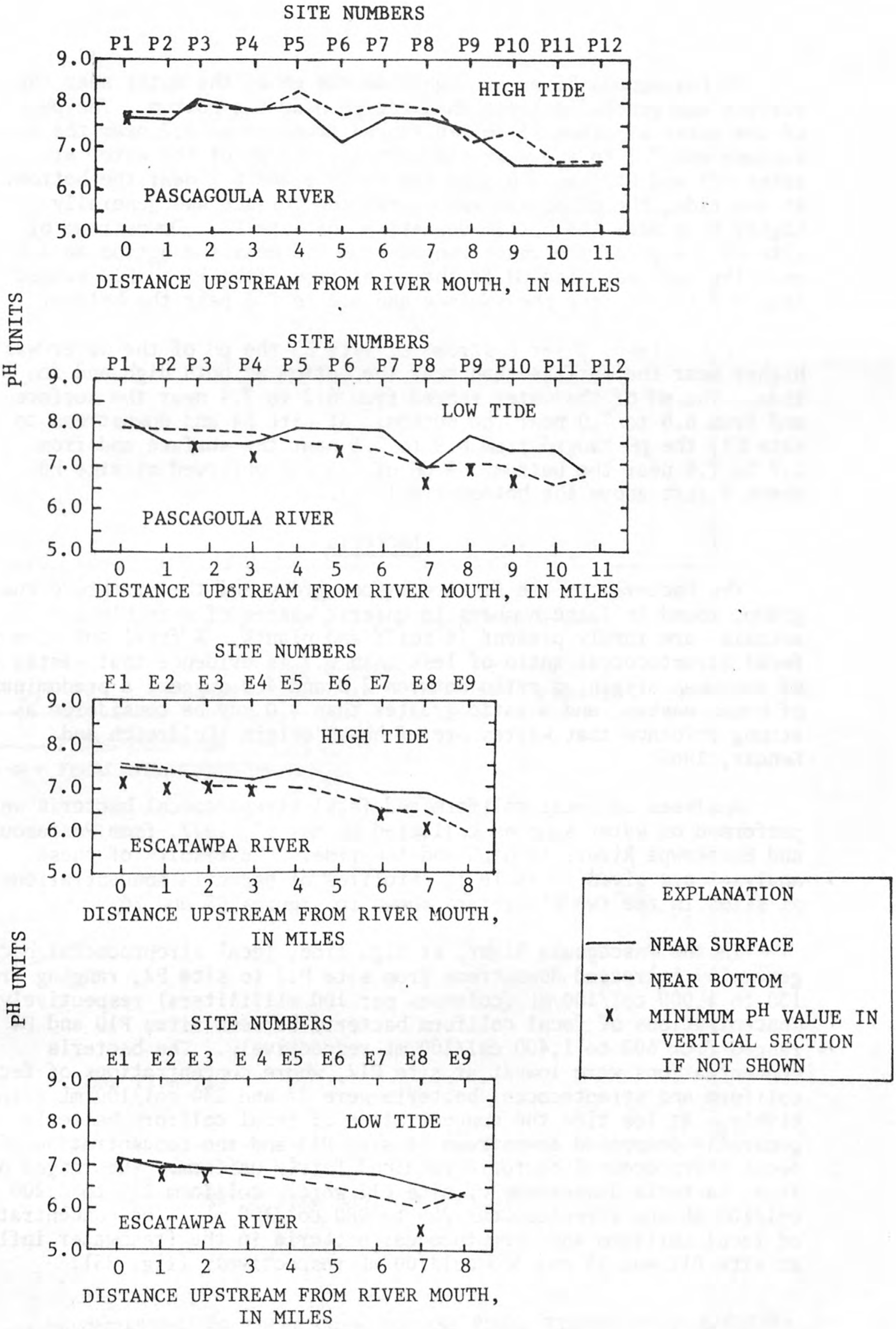

FIGURE 24.--PROFILES OF pH IN THE PASCAGOULA AND ESCATAWPA RIVERS AT HIGH AND LOW TIDE, MAY 17, 1977.

In Pascagoula River at high tide the pH of the water near the surface was generally lower than the pH near the bottom. The pH of the water at sites P1 to P10 ranged from 6.6 to 8.2 near the surface and 7.1 to 8.3 near the bottom. The pH of the water at sites P11 and P12 was 6.6 near the surface and 6.7 near the bottom. At low tide, the pH of the water near the surface was generally higher than near the bottom downstream of site P5. Downstream of site P5 the pH of the water ranged from 7.3 near the bottom to 8.0 near the surface. The pH of the water from sites P5 to P12 ranged from 6.8 to 7.8 near the surface and 6.6 to 7.5 near the bottom.

In Escatawpa River upstream of site E3 the pH of the water was higher near the surface than near the bottom at both high and low tide. The pH of the water ranged from 6.2 to 7.4 near the surface and from 6.0 to 7.0 near the bottom. At site E4 and downstream to site E1, the pH ranged from 6.9 to 7.5 near the surface and from 6.7 to 7.6 near the bottom. A pH of 5.5 was observed at site E8 about 5 feet above the bottom (table 1).

Bacteria

The bacteria of the fecal coliform group and the streptococcus group, found in large numbers in enteric wastes of warm-blooded animals, are rarely present in soils and plants. A fecal coliform to fecal streptococcal ratio of less than 0.7 is evidence that wastes are of nonhuman origin; a ratio between 2.0 and 4.0 suggest a predominance of human wastes; and a ratio greater than 4.0 may be considered as strong evidence that wastes are of human origin (Geldreich and Kenner, 1969).

Analyses of fecal coliform and fecal streptococcal bacteria were performed on water samples collected on May 17, 1977, from Pascagoula and Escatawpa Rivers at high and low tide. The results of these analyses are given in table 1. Profiles of bacteria concentrations at sites in the two rivers are shown in figures 25 and 26.

In the Pascagoula River, at high tide, fecal streptococcal bacteria generally increased downstream from site P12 to site P2, ranging from 130 to 1,900 col/100 mL (colonies per 100 milliliters) respectively. Concentrations of fecal coliform bacteria between sites P10 and P4 ranged from 600 to 1,400 col/100 mL respectively. The bacteria concentrations were lowest at site P12, where concentrations of fecal coliform and streptococcal bacteria were 27 and 130 col/100 mL respectively. At low tide the concentration of fecal coliform bacteria generally decreased downstream of site P10 and the concentration of fecal streptococcal bacteria remained fairly uniform. The ranges of fecal bacteria downstream of site P12 were: coliform 180 to 2,200 col/100 mL and streptococcus 250 to 980 col/100 mL. The concentrations of fecal coliform and streptococcal bacteria in the freshwater inflow at site P12 was 13 and 360 col/100 mL respectively (fig. 25).

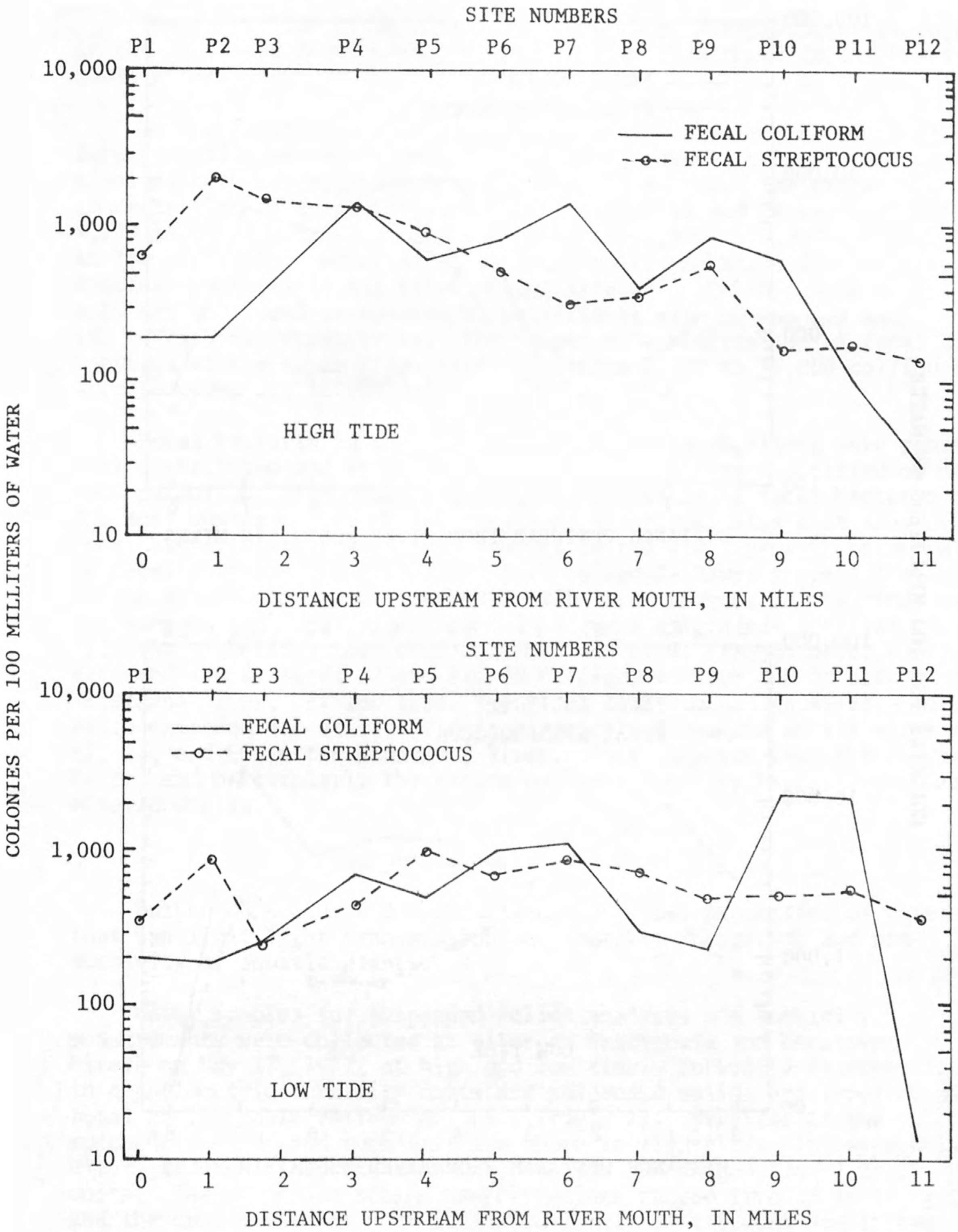

FIGURE 25.--CONCENTRATIONS OF FECAL COLIFORM AND FECAL STREPTOCOCAL BACTERIA IN PASCAGOULA RIVER AT HIGH AND LOW TIDE, MAY 17, 1977.

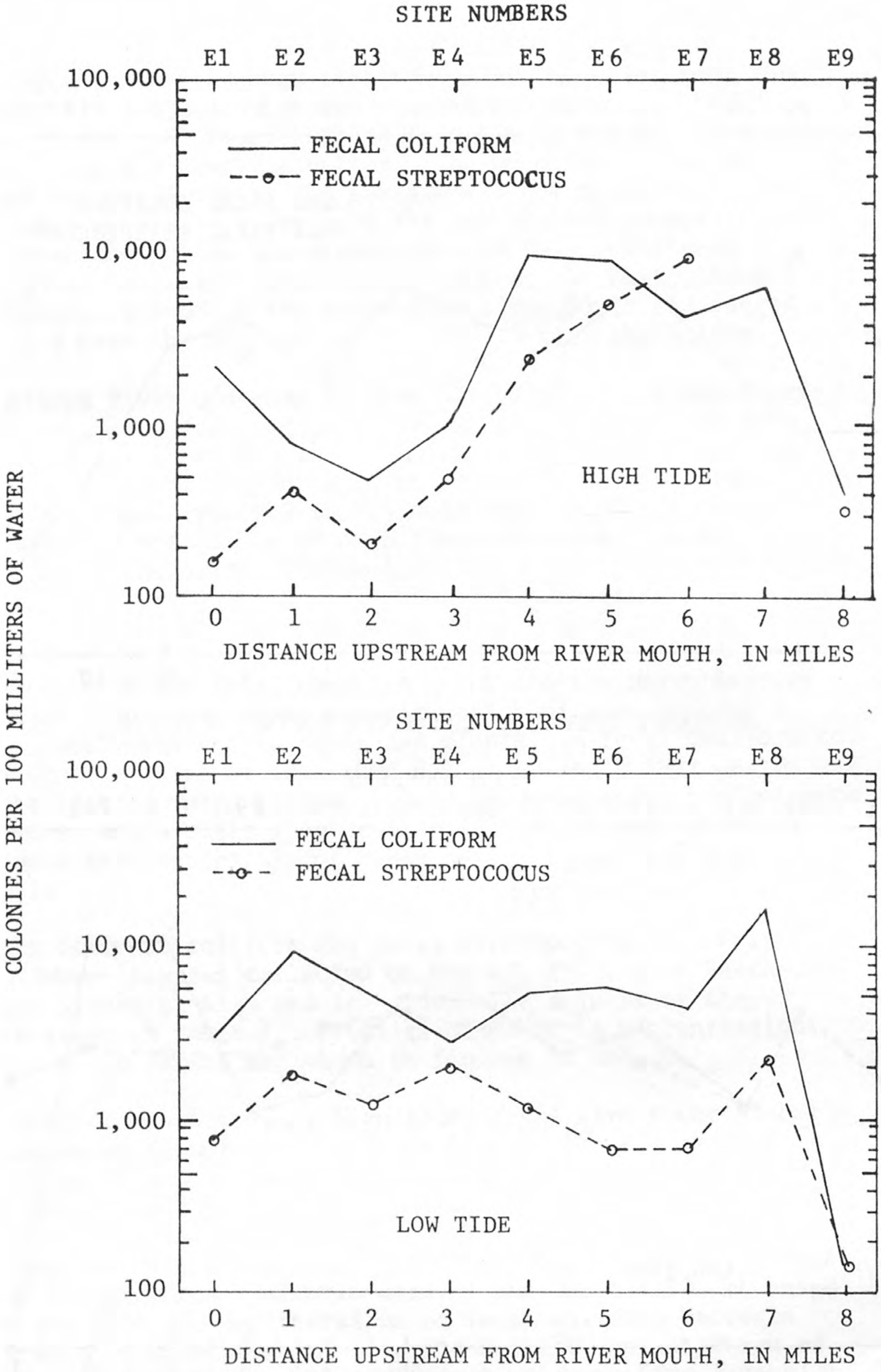

FIGURE 26.--CONCENTRATIONS OF FECAL COLIFORM AND FECAL STREPTOCOCAL BACTERIA IN THE ESCATAWPA RIVER AT HIGH AND LOW TIDE, MAY 17, 1977.

Concentrations of fecal coliform and fecal streptococcal bacteria in the Escatawpa River were generally higher than those in the Pascagoula River.

In the Escatawpa River at high tide the concentration of fecal coliform generally exceeded that of fecal streptococcal bacteria and concentrations of both were highest between sites E5 and E8. The ranges of concentration of fecal bacteria between sites E5 and E8 were: coliform 4,100 to 9,800 col/100 mL and streptococcus 2,500 to 9,300 col/100 mL. At low tide, the concentration of fecal coliform exceeded fecal streptococcal bacteria at all sites except site E9. The concentration of fecal coliform and fecal streptococcal bacteria at site E9 was 120 and 140 col/100 mL respectively. The ranges of concentration of fecal bacteria at the other sites were: coliform 2,700 to 18,000 col/100 mL and streptococcus 220 to 660 col/100 mL (fig. 26).

Fecal bacteria in the Pascagoula and Escatawpa Rivers were generally well distributed and were in concentrations that are indicative of man-made pollution. The relatively low concentration of fecal bacteria at the most upstream site on the Escatawpa River indicates that many of the fecal bacteria originated from sources in the study area. Concentrations of fecal bacteria at site P12 on the Pascagoula River suggest that much of the fecal coliform bacteria originate from sources in the study area, but many of the fecal streptococcal bacteria originates upstream of site P12. At high tide, the fecal coliform and fecal streptococcal ratio exceeded 4.0 at sites P7 and P10 in Pascagoula River and at site E1 in Escatawpa River. At low tide, the fecal coliform and fecal streptococcal ratio exceeded 4.0 at site P10 in Pascagoula River and at all sites except E1, E4, and E9 in the Escatawpa River. This suggests that the Pascagoula River, and particularly the Escatawpa River, receive bacteria of human enteric wastes.

Suspended Solids and Turbidity

Suspended solids and turbidity are physical properties of water that can limit light transmission and restrict the growth and productivity of aquatic plants.

Water samples for suspended solids analyses and turbidity measurements were collected at sites on Pascagoula and Escatawpa Rivers on May 17, 1977, at high and low tide. Turbidity is reported in nephelometric turbidity units and suspended solids are reported as total nonfiltrable residue at 105°C (table 1). Profiles of the suspended solids and turbidity are shown in figure 27. In Pascagoula River, at high tide, the turbidity was low and ranged from 2 to 10 units. The suspended-solids concentrations ranged from 22 to 72 mg/L, and the concentrations were fairly uniformly distributed downstream of site P10. In Pascagoula River at low tide, turbidity ranged from 2 to 25 units. The suspended-solids concentrations at low tide were generally lower than at high tide and ranged from 10 to 41 mg/L at all sites except P4. The suspended-solids concentration at site P4 was 123 mg/L.

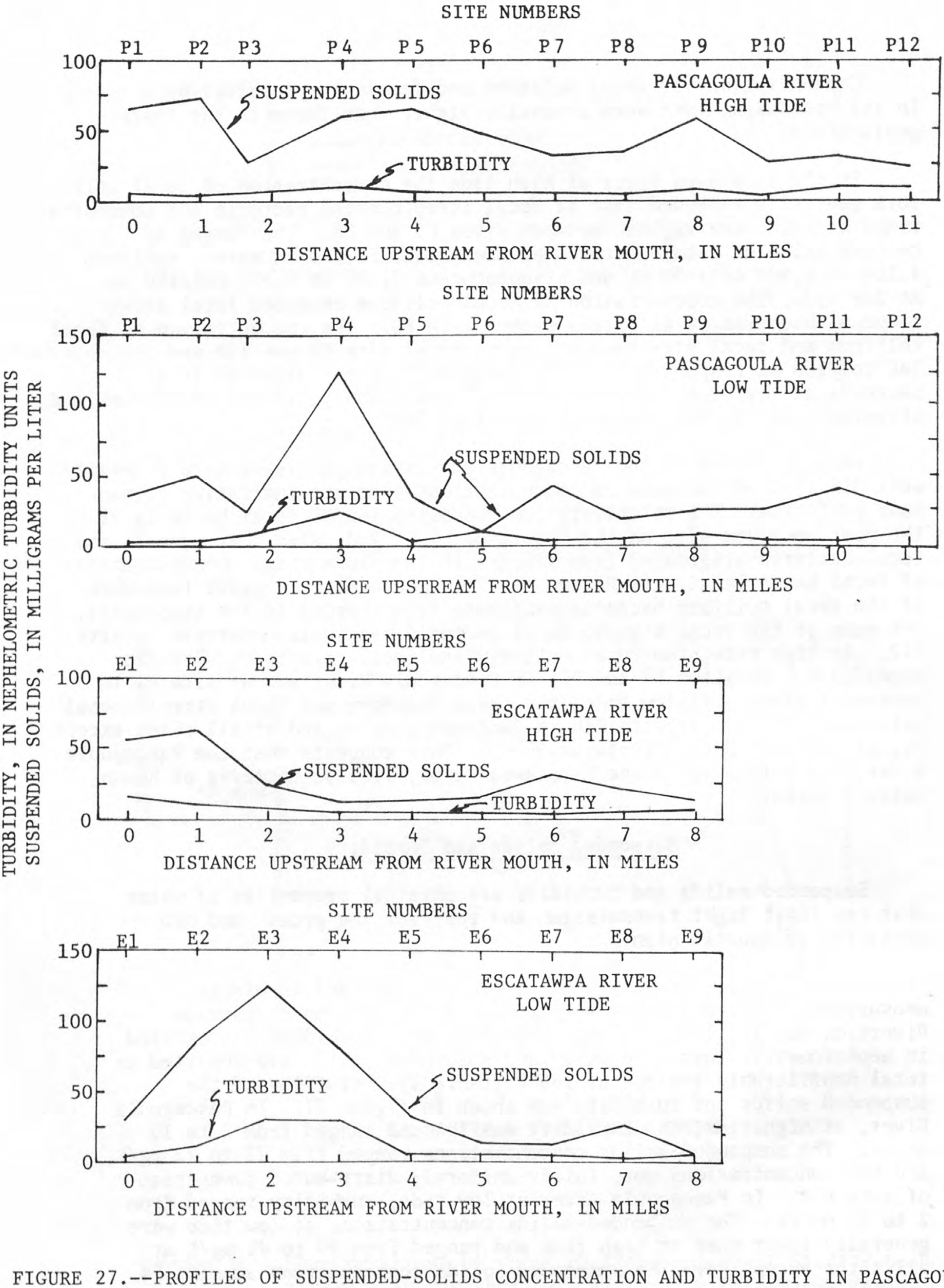

FIGURE 27.--PROFILES OF SUSPENDED-SOLIDS CONCENTRATION AND TURBIDITY IN PASCAGOULA AND ESCATAWPA RIVERS AT HIGH AND LOW TIDE, MAY 17, 1977.

In Escatawpa River, at high tide, turbidity ranged from 3 to 15 units and the suspended-solids concentration ranged from 13 to 63 mg/L. The turbidity and suspended solids in the river upstream from site E5 were relatively low; turbidity ranged from 3 to 6 units and the suspended-solids concentrations ranged from 4 to 31 mg/L. Turbidity and suspended-solids concentrations during low tide were significantly higher at sites E2, E3, and E4. The turbidity ranged from 10 to 30 units and the suspended-solids concentrations ranged from 80 to 122 mg/L.

In Pascagoula and Escatawpa Rivers the turbidity and suspended solids were generally low at most sites at high and low tide. The suspended-solids concentrations, however, were relatively high at low tide along short reaches of the lower parts of both rivers. The increased turbidity and suspended-solids concentrations at sites P4 and E3 may be the result of sand-dredging operations and/or waste effluents entering the rivers near these sites. The turbidity of freshwater inflow at sites P12 and E9 was generally about the same or slightly lower than that of the downstream sites. The suspended-solids concentrations were much lower at the upstream ends than in the downstream ends of the study reaches.

Summary

The quality of water of Pascagoula and Escatawpa Rivers during the short-term study conducted on May 17-19, 1977 varied between high and low tides, primarily as the result of the interaction of freshwater inflow with saline water of the Gulf tides. At high tide, the dissolved-solids concentration was 14,500 mg/L at site P3 in the lower reach of the Pascagoula River and 4,600 mg/L at site E1 on the Escatawpa River which flows into the Pascagoula River about 7 miles above its mouth. Even though the salinity of Escatawpa River was lower than that of the Pascagoula sodium, magnesium, calcium, chloride, and sulfate were the major dissolved inorganic constituents in both streams.

The specific conductance of the water of Pascagoula and Escatawpa Rivers at most downstream sites, increased with depth, showing evidence of density stratification. The maximum specific conductance observed was 40,000 micromhos per centimeter at 25°C near the bottom at the mouth of Pascagoula River. The maximum specific conductance of Escatawpa River was 30,000 micromhos at site E1 near the bottom. This relatively high specific conductance in Escatawpa River was probably due to the more dense saline water confined in the channel of Escatawpa River which is approximately 10 feet deeper than the Pascagoula River at the confluence. In general, the specific conductance of the water of both rivers progressively decreased upstream to the sites where freshwater inflow predominated. The specific conductance of freshwater entering the study area was 60 micromhos in Pascagoula River and 45 micromhos in Escatawpa River.

During this study the saltwater from Gulf tides in Pascagoula River reached sites P11, 10 miles upstream, but did not reach site P12. In the Escatawpa River, a small quantity of saltwater moved 8 miles upstream to site E9 at high tide.

DO concentration exceeded 5.0 mg/L near the surface in both the Pascagoula and Escatawpa Rivers and generally decreased with depth. DO stratification occurred at several sites with concentrations near the bottom as low as 2.6 mg/L in the Pascagoula River and 2.1 mg/L in the Escatawpa River.

The BOD in Pascagoula and Escatawpa Rivers was comparatively low and generally increased downstream from sites P12 and E9. BOD values ranged from 0.1 to 3.5 mg/L and were less than 2.0 mg/L at most sites. The increase in BOD in the study reaches indicates that oxygen-consuming wastes enter the Escatawpa River downstream of site E7 and the lower Pascagoula River.

Concentrations of TOC in the Pascagoula and Escatawpa Rivers ranged from 3.9 to 7.8 mg/L. A large part of the TOC in the lower reaches of the Pascagoula River originated upstream of the study area. The TOC concentrations during low tide were slightly lower at the most upstream site on the Escatawpa River than at the most upstream site on the Pascagoula River. The increase in TOC in the lower Escatawpa River may be due in part to the movement of water from the Pascagoula River into the Escatawpa River during high tide.

The concentrations of NO_2 + NO_3 and NH_3 nitrogen species in Pascagoula and Escatawpa Rivers were relatively low at high and low tide. NO_2 + NO_3 nitrogen concentrations ranged from 0.06 to 0.16 mg/L; and NH_3-N concentrations ranged from 0.01 to 0.29 mg/L. In Pascagoula River, concentrations of NH_3-N increased and NO_2 + NO_3 nitrogen decreased in a downstream direction. In the Escatawpa River, concentraions of NH_3-N increased in a downstream direction during low tide.

Organic nitrogen comprised 60 to 87 percent of the total nitrogen content, except at sites P1, P2, and P4. At these sites in the lower reach of Pascagoula River the organic nitrogen ranged from 12 to 56 percent of the total nitrogen content. In Pascagoula River the total nitrogen concentrations ranged from 0.41 to 1.2 mg/L and were generally highest at low tide. In Escatawpa River the total nitrogen concentrations were generally lowest at low tide except at sites E3 and E4 where organic nitrogen increased significantly. The concentrations of total nitrogen at high tide ranged from 0.74 to 0.96 mg/L; at low tide the concentrations ranged from 0.42 to 1.5 mg/L.

The phosphorus content of the water in Pascagoula and Escatawpa Rivers was relatively low. Total phosphorus concentrations, at high and low tide, ranged from 0.03 to 0.11 mg/L in Pascagoula River and 0.01 to 0.16 mg/L in Escatawpa River.

Water temperature at most sites on the Pascagoula and Escatawpa Rivers decreased from the water surface to near the bottom. In Pascagoula River, water temperatures from the surface to the bottom in the deeper part of the river decreased from 25.0°C (77°F) to 22.0°C (71.6°F) at high tide and from 26.5°C (79.7°F) to 23.0°C (73.4°F) at low tide. The freshwater inflow remained at 24.5°C (76.1°F) during high and low tide. In Escatawpa River, the water temperature near the surface increased downstream of site E4 suggesting possible thermal loading along this reach.

The pH of the water at sites on Pascagoula and Escatawpa Rivers did not vary appreciably with depth, but increased slightly in a downstream direction. The pH values ranged from 6.6 to 8.2 in Pascagoula River and from 5.5 to 7.6 in Escatawpa River.

Concentrations of fecal bacteria in Pascagoula and Escatawpa Rivers were generally well distributed and were in concentrations indicative of manmade pollution. In Pascagoula River, fecal coliform bacteria concentrations ranged from 13 to 2,200 col/100 mL, and fecal streptococcal bacteria concentrations ranged from 130 to 1,900 col/100 mL. In Escatawpa River, fecal coliform bacteria concentrations ranged from 120 to 18,000 col/100 mL, and fecal streptococcal bacteria concentrations ranged from 140 to 9,300 col/100 mL. The relatively low concentrations of fecal bacteria at the most upstream sites suggest that many of the fecal bacteria in the lower reaches of the rivers originated from sources in the study area. The fecal coliform and fecal streptococcal ratio exceeded 4.0 at several sites, especially in Escatawpa River at low tide, indicating that both rivers probably receive human enteric wastes.

The suspended-solids concentrations and turbidity of the water of Pascagoula and Escatawpa Rivers were generally low except along the lower reaches of both rivers. Increases in suspended-solids concentrations and turbidity in water at sites P4 and E3 may be the result of sand-dredging operations and waste effluents entering the rivers near these sites. Suspended-solids concentrations ranged from 10 to 123 mg/L in Pascagoula River and 4 to 122 mg/L in Escatawpa River. Turbidity of the water ranged from 2 to 25 units in Pascagoula River and from 3 to 30 units in Escatawpa River.

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WATER-QUALITY DATA

TABLE 1. RESULTS OF LABORATORY ANALYSES AND FIELD DETERMINATIONS, PASCAGOULA AND ESCATAWPA RIVERS, MAY 17-19, 1977

PASCAGOULA RIVER AT SITE P1 - LAT 30°20'48" LONG 088"34'03"

DATE	TIME	SAMP-LING DEPTH (FT)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	DIS-SOLVED OXYGEN (MG/L)
MAY						
17...	0831	1.0	15000	7.7	25.5	7.0
17...	0832	5.0	17000	7.8	25.5	7.0
17...	0833	10	28000	7.6	25.5	5.7
17...	0834	15	32000	7.7	24.5	3.6
17...	0835	20	34000	7.8	24.0	3.3
17...	0836	25	34000	7.8	24.0	3.3
17...	0837	30	35000	7.8	23.5	3.6
17...	0838	35	36000	7.8	23.5	3.8
17...	0839	40	36000	7.8	23.5	3.6
17...	0840	45	32000	7.8	23.0	3.6
17...	1631	1.0	19000	8.0	26.5	8.2
17...	1632	5.0	20000	7.9	26.0	7.5
17...	1633	10	25000	7.8	25.5	7.1
17...	1634	15	28000	7.8	25.0	5.7
17...	1635	20	32000	7.9	25.0	6.3
17...	1636	25	35000	7.8	24.0	3.8
17...	1637	30	36000	7.8	23.5	3.7
17...	1638	35	38000	7.8	23.5	3.6
17...	1639	40	39000	7.8	23.5	3.2
17...	1640	45	40000	7.8	23.0	3.1
18...	0801	1.0	18000	7.8	24.5	6.9
18...	0802	5.0	20000	7.9	25.0	7.3
18...	0803	10	22000	8.0	25.0	6.8
18...	0804	15	25000	8.0	25.0	6.8
18...	0805	20	27000	7.8	25.0	5.3
18...	0806	25	33000	7.8	24.5	4.5
18...	0807	30	35000	7.8	23.5	3.1
18...	0808	35	38000	7.8	23.5	2.8
18...	0809	40	39000	7.8	23.0	2.9
18...	1621	1.0	16000	8.0	27.0	8.2
18...	1622	5.0	18000	7.9	26.5	7.8
18...	1623	10	20000	7.8	26.5	7.3
18...	1624	15	24000	7.8	25.5	6.1
18...	1625	20	26000	7.8	25.0	5.3
18...	1626	25	37000	7.8	24.5	4.4
18...	1627	30	38000	7.8	24.0	3.3
18...	1628	35	39000	7.7	23.5	2.7
18...	1629	40	39000	7.7	23.5	2.5

TABLE 1. - CONTINUED

PASCAGOULA RIVER AT SITE P1 - LAT 30°20'48" LONG 088"34'03"

DATE	TIME	TUR-BID-ITY (NTU)	BIO-CHEM-ICAL OXYGEN DEMAND 5 DAY (MG/L)	FECAL COLI-FORM .7UM-MF (COL./ 100 ML)	FECAL STREP-TOCOCCI KF AGAR (COL. PER 100 ML)	TOTAL NON-FILT-RABLE RESIDUE (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)
MAY							
17...	0830	7.0	2.2	180	*610	66	.07
17...	1630	2.0	1.5	200	350	35	.06
18...	0800	--	1.8	--	--	--	--
18...	1620	--	3.5	--	--	--	--

DATE	TOTAL AMMONIA NITRO-GEN (N) (MG/L)	TOTAL ORGANIC NITRO-GEN (N) (MG/L)	TOTAL KJEL-DAHL NITRO-GEN (N) (MG/L)	TOTAL NITRO-GEN (N) (MG/L)	TOTAL NITRO-GEN (NO3) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	TOTAL ORGANIC CARBON (C) (MG/L)
MAY							
17...	.23	.24	.47	.54	2.4	.09	4.8
17...	.16	.39	.55	.61	2.7	.07	5.9
18...	.16	.47	.63	--	--	--	--
18...	.17	.53	.70	--	--	--	--

* NONIDEAL COLONY COUNT.

TABLE 1. - CONTINUED

PASCAGOULA RIVER AT SITE P2 - LAT 30°21'42" LONG 088°33'57"

DATE	TIME	SAMP-LING DEPTH (FT)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	DIS-SOLVED OXYGEN (MG/L)
MAY						
17...	0901	1.0	17000	7.6	25.0	6.7
17...	0902	5.0	22000	7.6	25.0	5.8
17...	0903	10	30000	7.7	24.5	3.8
17...	0904	15	32000	7.8	24.0	3.7
17...	0905	20	35000	7.8	23.5	3.5
17...	0906	25	36000	7.8	23.5	3.5
17...	0907	30	36000	7.9	23.5	3.5
17...	0908	35	37000	7.9	23.5	3.3
17...	0909	40	38000	7.8	23.0	3.3
17...	0910	45	38000	7.8	23.0	3.0
17...	0911	50	30000	7.8	22.0	1.0
17...	1646	1.0	14000	7.6	26.0	7.5
17...	1647	5.0	16000	7.6	25.5	6.9
17...	1648	10	19000	7.6	26.0	6.9
17...	1649	15	22000	7.6	25.5	6.1
17...	1650	20	28000	7.7	24.0	4.2
17...	1651	25	34000	7.8	23.5	3.5
17...	1652	30	35000	7.8	23.5	3.5
17...	1653	35	38000	7.8	23.5	3.4
17...	1654	40	38000	7.8	23.5	3.2
18...	0816	1.0	26000	7.7	25.0	7.1
18...	0817	5.0	26000	7.8	25.5	6.8
18...	0818	10	27000	7.9	25.5	6.5
18...	0819	15	28000	7.8	25.5	5.4
18...	0820	20	28000	7.7	25.0	4.7
18...	0821	25	28000	7.7	24.0	3.1
18...	0822	30	29000	7.8	23.5	2.8
18...	0823	35	29000	7.7	23.0	2.0
18...	0824	40	30000	7.6	23.0	1.5
18...	1641	1.0	17000	8.0	27.0	8.3
18...	1642	5.0	18000	7.9	26.5	7.6
18...	1643	10	19500	7.9	26.5	7.0
18...	1644	15	22000	7.9	26.0	6.5
18...	1645	20	24000	7.8	25.5	5.8
18...	1646	25	34000	7.8	24.0	3.0
18...	1647	30	37000	7.8	23.5	2.6
18...	1648	35	37000	7.8	23.5	2.5
18...	1649	40	38000	7.7	23.5	2.3

TABLE 1. - CONTINUED

PASCAGOULA RIVER AT SITE P2 - LAT 30°21'42" LONG 088°33'57"

DATE	TIME	TUR-BID-ITY (NTU)	BIO-CHEM-ICAL OXYGEN DEMAND 5 DAY (MG/L)	FECAL COLI-FORM .7UM-MF (COL./ 100 ML)	FECAL STREP-TOCOCCI KF AGAR (COL. PER 100 ML)	TOTAL NON-FILT-RABLE RESIDUE (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)
MAY							
17...	0900	2.0	1.3	190	1900	72	.07
17...	1645	2.0	1.3	180	860	50	.08
18...	0815	--	1.6	--	--	--	--
18...	1640	--	2.1	--	--	--	--

DATE	TOTAL AMMONIA NITRO-GEN (N) (MG/L)	TOTAL ORGANIC NITRO-GEN (N) (MG/L)	TOTAL KJEL-DAHL NITRO-GEN (N) (MG/L)	TOTAL NITRO-GEN (N) (MG/L)	TOTAL NITRO-GEN (NO3) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	TOTAL ORGANIC CARBON (C) (MG/L)
MAY							
17...	.29	.05	.34	.41	1.8	.09	3.9
17...	.16	.42	.58	.66	2.9	.07	6.5
18...	.13	.57	.70	--	--	--	--
18...	.11	.52	.63	--	--	--	--

TABLE 1. - CONTINUED

PASCAGOULA RIVER AT SITE P3 - LAT 30°22"18" LONG 088°33'46"

DATE	TIME	SAMP-LING DEPTH (FT)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	DIS-SOLVED OXYGEN (MG/L)
MAY						
17...	0916	1.0	23000	8.2	24.5	5.1
17...	0917	5.0	28000	8.1	24.5	4.5
17...	0918	10	32000	8.0	24.0	3.9
17...	0919	15	34000	8.0	23.5	3.4
17...	0920	20	35000	7.9	23.5	3.1
17...	0921	25	28000	7.9	23.5	3.0
17...	1701	1.0	12500	7.6	26.0	7.1
17...	1702	5.0	13000	7.5	26.0	6.8
17...	1703	10	16000	7.5	26.0	6.9
17...	1704	15	24000	7.6	24.5	4.2
17...	1705	20	29000	7.7	24.5	4.2
18...	0831	1.0	25000	7.2	25.0	6.5
18...	0832	5.0	25000	7.2	25.5	6.2
18...	0833	10	26000	7.3	25.5	6.0
18...	0834	15	27000	7.3	25.5	5.5
18...	0835	20	28000	7.3	24.5	4.3
18...	0836	25	28000	7.3	24.5	3.9
18...	1656	1.0	11000	7.7	27.0	7.9
18...	1657	5.0	11000	7.7	27.0	7.8
18...	1658	10	16000	7.7	26.5	7.0
18...	1659	15	24000	7.7	25.5	5.2
18...	1700	20	26000	7.6	25.0	5.2

TABLE 1. - CONTINUED

PASCAGOULA RIVER AT SITE P3 - LAT 30°22"18" LONG 088°33'46"

DATE	TIME	TUR-BID-ITY (NTU)	BIO-CHEM-ICAL OXYGEN DEMAND 5 DAY (MG/L)	FECAL COLI-FORM .7UM-MF (COL./ 100 ML)	FECAL STREP-TOCOCCI KF AGAR (COL. PER 100 ML)	TOTAL NON-FILT-RABLE RESIDUE (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)
MAY							
17...	0915	5.0	1.9	360	1400	29	.07
17...	1700	8.0	2.1	250	250	22	.08
18...	0830	--	1.9	--	--	--	--
18...	1655	--	1.5	--	--	--	--
19...	1700	6.0	--	--	--	--	.07

DATE	TOTAL AMMONIA NITRO-GEN (N) (MG/L)	TOTAL ORGANIC NITRO-GEN (N) (MG/L)	TOTAL KJEL-DAHL NITRO-GEN (N) (MG/L)	TOTAL NITRO-GEN (N) (MG/L)	TOTAL NITRO-GEN (NO3) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	TOTAL ORGANIC CARBON (C) (MG/L)
MAY							
17...	.16	.45	.61	.68	3.0	.08	4.7
17...	.08	.43	.51	.59	2.6	.05	5.2
18...	.11	1.1	1.2	--	--	--	--
18...	.05	.83	.88	--	--	--	--
19...	.04	.56	.60	.67	3.0	.07	7.8

TABLE 1 - CONTINUED

PASCAGOULA RIVER AT SITE P3 - LAT 30°22'18" LONG 088°33'46"

DATE OF COLLECTION: MAY 19, 1977 TIME OF COLLECTION: 1700

ALDRIN BTM UG/KG		0.0	HEPTACHLOR T.(WATER)	UG/L	0.0
ALDRIN TOTAL (WATER)	UG/L	0.00	IRON TOTAL	UG/L	460
ALK.TOT (ASCACO3)	MG/L	55	LEAD BTM UG/G		10
ARSENIC BTM UG/G		1	LEAD TOTAL	UG/L	10
ARSENIC TOTAL	UG/L	2	LINDANE BTM UG/KG		0.0
BICARBONATE	MG/L	67	LINDANE TOTAL (WATER)	UG/L	0.0
CADMIUM BTM UG/G		< 10	MAGNESIUM DISS	MG/L	530
CADMIUM TOTAL	UG/L	0	MALATHION BTM UG/KG		0.0
CALCIUM DISS	MG/L	160	MALATHION TOT(WATER)	UG/L	0.0
CARBON TOT ORGANIC	MG/L	7.8	MANGANESE BTM UG/G		10
CARBONATE	MG/L	0	MANGANESE TOTAL	UG/L	120
CHLORDANE BTM UG/KG		0	MERCURY BTM UG/G		0.8
CHLORDANE TOT(WATER)	UG/L	0.0	MERCURY TOTAL	UG/L	0.0
CHLORIDE DISS	MG/L	8100	MET PARTH BTM UG/KG		0.0
CHROMIUM TOT BT UG/G		< 10	MET PARTH TOT(WATER)	UG/L	0.0
CHROMIUM TOTAL	UG/L	10	MET TRITH BTM UG/KG		0.0
COBALT BTM UG/G		< 10	MET TRITH TOT(WATER)	UG/L	0.0
COBALT TOTAL	UG/L	0	OIL AND GREASE	MG/L	2
COLOR		20	PCB BTM UG/KG		16
COPPER BTM UG/G		< 10	PCB TOTAL (WATER)	UG/L	0.0
COPPER TOTAL	UG/L	24	PCN BTM UG/KG		0
DDD BTM UG/KG		0.0	PCN TOTAL (WATER)	UG/L	0.0
DDD TOTAL (WATER)	UG/L	0.00	PH FIELD		7.9
DDE BTM UG/KG		0.0	PHENOLS	UG/L	11
DDE TOTAL (WATER)	UG/L	0.00	RESIDUE DIS TON/AFT		19.7
DDT BTM UG/KG		0.0	RESIDUE DIS 180C	MG/L	14500
DDT TOTAL (WATER)	UG/L	0.24	SELENIUM BTM UG/G		0.0
DIAZINON BTM UG/KG		0.0	SELENIUM TOTAL	UG/L	0
DIAZINON TOT (WATER)	UG/L	0.01	SILICA DISSOLVED	MG/L	4.3
DIELDRIN BTM UG/KG		0.0	SILVEX BTM UG/KG		0
DIELDRIN TOT (WATER)	UG/L	0.0	SILVEX TOTAL (WATER)	UG/L	0.0
ENDRIN BTM UG/KG		0.0	SP. CONDUCTANCE FLD		19000
ENDRIN TOTAL (WATER)	UG/L	0.00	SULFATE DISS	MG/L	990
ETH PARTH BTM UG/KG		0.0	TOXAPHENE BTM UG/KG		0
ETH PARTH TOT(WATER)	UG/L	0.00	TOXAPHENE TOT(WATER)	UG/L	0.0
ETH TRITH BTM UG/KG		0.0	TURBIDITY (NTU) EPA		6.0
ETH TRITH TOT(WATER)	UG/L	0.00	ZINC BTM UG/G		20
ETHION BTM UG/KG		0.0	ZINC TOTAL	UG/L	50
ETHION TOTAL (WATER)	UG/L	0.00	2,4-D BTM UG/KG		0
HARDNESS NONCARB	MG/L	2500	2,4-D TOTAL (WATER)	UG/L	0.0
HARDNESS TOTAL	MG/L	2600	2,4-DP BTM UG/KG		0
HEPT EPOX BTM UG/KG		0.0	2,4-DP TOTAL (WATER)	UG/L	0.0
HEPT EPOX TOT(WATER)	UG/L	0.00	2,4,5-T BTM UG/KG		0
HEPTACHLOR BTM UG/KG		0.0	2,4,5-T TOTAL (WATER)	UG/L	0.0

BTM: BOTTOM MATERIAL SAMPLE

TABLE 1. - CONTINUED

PASCAGOULA RIVER AT SITE P4 - LAT 30°23'19" LONG 088°33'54"

DATE	TIME	SAMPLING DEPTH (FT)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	DISSOLVED OXYGEN (MG/L)
MAY						
17...	0931	1.0	20000	7.8	24.5	6.1
17...	0932	5.0	23000	7.8	25.0	5.9
17...	0933	10	25000	7.9	24.0	3.7
17...	0934	15	33000	7.9	23.5	3.4
17...	0935	20	34000	7.9	23.5	3.4
17...	0936	25	34000	7.8	23.5	3.4
17...	1716	1.0	9000	7.6	26.5	7.5
17...	1717	5.0	9000	7.5	26.0	7.0
17...	1718	10	10000	7.3	26.0	6.8
17...	1719	15	15000	7.3	26.0	6.7
17...	1720	20	20000	7.5	25.0	5.2
17...	1721	25	25000	7.5	24.5	4.5
17...	1722	30	26000	7.7	24.0	4.0
17...	1723	35	30000	7.7	24.0	3.8
18...	0846	1.0	14000	7.1	25.5	6.8
18...	0847	5.0	17000	7.2	25.5	6.7
18...	0848	10	21000	7.5	25.5	6.4
18...	0849	15	23000	7.5	25.5	6.3
18...	0850	20	24000	7.5	25.0	5.2
18...	0851	25	26000	7.5	25.0	4.8
18...	0852	30	27000	7.4	24.5	4.4
18...	0853	35	27000	7.2	24.5	2.8
18...	1706	1.0	9000	7.4	27.0	7.5
18...	1707	5.0	9000	7.5	27.0	7.7
18...	1708	10	10000	7.6	27.0	7.7
18...	1709	15	14000	7.5	26.5	6.8
18...	1710	20	15000	7.5	26.0	6.6
18...	1711	25	16500	7.6	26.0	6.2
18...	1712	30	18000	7.6	26.0	5.9
18...	1713	35	19000	7.5	25.5	5.5
18...	1714	40	20000	7.5	25.5	5.5

TABLE 1. - CONTINUED

PASCAGOULA RIVER AT SITE P4 - LAT 30°23'19" LONG 088°33'54"

DATE	TIME	TUR-BID-ITY (NTU)	BIO-CHEM-ICAL OXYGEN DEMAND 5 DAY (MG/L)	FECAL COLI-FORM .7UM-MF (COL./100 ML)	FECAL STREP-TOCOCCI KF AGAR (COL. PER 100 ML)	TOTAL NON-FILT-RABLE RESIDUE (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)
MAY							
17...	0930	10	2.1	*1400	1300	60	.07
17...	1715	25	.7	680	440	123	.08
18...	0845	--	1.4	--	--	--	--
18...	1705	--	1.6	--	--	--	--

DATE	TOTAL AMMONIA NITRO-GEN (N) (MG/L)	TOTAL ORGANIC NITRO-GEN (N) (MG/L)	TOTAL KJEL-DAHL NITRO-GEN (N) (MG/L)	TOTAL NITRO-GEN (N) (MG/L)	TOTAL NITRO-GEN (NO3) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	TOTAL ORGANIC CARBON (C) (MG/L)
MAY							
17...	.13	.25	.38	.45	2.0	.09	6.1
17...	.10	1.0	1.1	1.2	5.2	.11	7.1
18...	.11	.81	.92	--	--	--	--
18...	.06	.83	.89	--	--	--	--

* NONIDEAL COLONY COUNT.

PASCAGOULA RIVER AT SITE P5 - LAT 30°23'45" LONG 088°34'38"

DATE	TIME	SAMPLING DEPTH (FT)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	DISSOLVED OXYGEN (MG/L)
MAY						
17...	0946	1.0	13000	7.9	24.5	7.2
17...	0947	5.0	17500	7.9	24.5	6.2
17...	0948	10	28000	8.1	24.5	5.1
17...	0949	15	34000	8.2	24.0	3.7
17...	0950	20	34000	8.2	23.5	3.6
17...	0951	25	34000	8.3	23.5	3.5
17...	1731	1.0	9500	7.8	26.5	7.3
17...	1732	5.0	9500	7.5	26.5	7.0
17...	1733	10	22000	7.5	25.0	5.2
17...	1734	15	24000	7.5	24.5	4.7
17...	1735	20	24000	7.5	24.5	4.3
18...	0901	1.0	11500	7.2	25.0	7.1
18...	0902	5.0	11500	7.1	25.0	6.6
18...	0903	10	18000	7.4	25.5	6.4
18...	0904	15	22000	7.6	25.5	6.3
18...	0905	20	24000	7.6	25.5	5.3
18...	1721	1.0	9500	7.5	26.5	7.3
18...	1722	5.0	10000	7.5	26.5	7.2
18...	1723	10	18000	7.4	25.5	5.7
18...	1724	15	19000	7.4	25.5	5.7

TABLE 1. - CONTINUED

PASCAGOULA RIVER AT SITE P5 - LAT 30°23'45" LONG 088°34'38"

DATE	TIME	TUR-BID-ITY (NTU)	BIO-CHEM-ICAL OXYGEN DEMAND 5 DAY (MG/L)	FECAL COLI-FORM .7UM-MF (COL./ 100 ML)	FECAL STREP-TOCOCCI KF AGAR (COL. PER 100 ML)	TOTAL NON-FILT-RABLE RESIDUE (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)
MAY							
17...	0945	8.0	1.4	580	880	66	.07
17...	1730	2.0	1.1	500	980	35	.09
18...	0900	--	1.2	--	--	--	--
18...	1720	--	1.6	--	--	--	--

DATE	TOTAL AMMONIA NITRO-GEN (N) (MG/L)	TOTAL ORGANIC NITRO-GEN (N) (MG/L)	TOTAL KJEL-DAHL NITRO-GEN (N) (MG/L)	TOTAL NITRO-GEN (N) (MG/L)	TOTAL NITRO-GEN (NO3) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	TOTAL ORGANIC CARBON (C) (MG/L)
MAY							
17...	.13	.60	.73	.80	3.5	.08	5.5
17...	.10	.61	.71	.80	3.5	.05	6.7
18...	.07	.68	.75	--	--	--	--
18...	.05	.64	.69	--	--	--	--

TABLE 1. - CONTINUED

PASCAGOULA RIVER AT SITE P6 - LAT 30°24'30" LONG 088°35'04"

DATE	TIME	SAMP-LING DEPTH (FT)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	DIS-SOLVED OXYGEN (MG/L)
MAY						
17...	1001	1.0	7500	7.2	24.5	6.6
17...	1002	5.0	22000	7.2	24.5	5.8
17...	1003	10	32000	7.7	24.0	3.4
17...	1004	15	33000	7.7	23.5	3.1
17...	1005	20	33000	7.7	23.5	3.2
17...	1746	1.0	8500	7.8	26.0	6.9
17...	1747	5.0	9000	7.6	26.0	6.7
17...	1748	10	19000	7.4	25.5	5.5
17...	1749	15	25000	7.5	24.5	4.4
18...	0916	1.0	4500	7.2	24.5	7.5
18...	0917	5.0	7500	7.1	25.0	6.7
18...	0918	10	21000	7.3	25.5	5.6
18...	0919	15	23000	7.4	25.0	4.8
18...	1731	1.0	11000	7.3	26.0	6.6
18...	1732	5.0	11000	7.4	26.0	6.6
18...	1733	10	16000	7.3	25.5	5.7
18...	1734	15	20000	7.4	25.0	5.1

TABLE 1. - CONTINUED

PASCAGOULA RIVER AT SITE P6 - LAT 30°24'30" LONG 088°35'04"

DATE	TIME	TUR-BID-ITY (NTU)	BIO-CHEM-ICAL OXYGEN DEMAND 5 DAY (MG/L)	FECAL COLI-FORM .7UM-MF (COL./ 100 ML)	FECAL STREP-TOCOCCI KF AGAR (COL. PER 100 ML)	TOTAL NON-FILT-RABLE RESIDUE (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)
MAY							
17...	1000	8.0	1.7	780	480	47	.09
17...	1745	10	.8	1000	700	10	.09
18...	0915	--	1.1	--	--	--	--
18...	1730	--	1.0	--	--	--	--

DATE	TOTAL AMMONIA NITRO-GEN (N) (MG/L)	TOTAL ORGANIC NITRO-GEN (N) (MG/L)	TOTAL KJEL-DAHL NITRO-GEN (N) (MG/L)	TOTAL NITRO-GEN (N) (MG/L)	TOTAL NITRO-GEN (NO3) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	TOTAL ORGANIC CARBON (C) (MG/L)
MAY							
17...	.08	.53	.61	.70	3.1	.06	5.2
17...	.09	.83	.92	1.0	4.5	.06	6.4
18...	.08	.76	.84	--	--	--	--
18...	.07	.53	.60	--	--	--	--

TABLE 1. - CONTINUED

PASCAGOULA RIVER AT SITE P7 - LAT 30°25'07" LONG 088°34'28"

DATE	TIME	SAMP-LING DEPTH (FT)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	DIS-SOLVED OXYGEN (MG/L)
MAY						
17...	1016	1.0	5200	7.7	24.5	6.9
17...	1017	5.0	22000	7.8	24.5	5.3
17...	1018	10	24000	7.9	24.5	4.3
17...	1801	1.0	5000	7.7	26.0	6.8
17...	1802	5.0	7000	7.4	26.0	6.6
17...	1803	10	11000	7.3	25.5	5.9
18...	0926	1.0	4500	7.2	24.5	7.2
18...	0927	5.0	11500	7.0	25.0	6.4
18...	0928	10	20000	7.2	25.0	5.1
18...	1741	1.0	4500	7.3	26.5	7.4
18...	1742	5.0	6500	7.3	26.0	6.4
18...	1743	10	14000	7.2	25.5	5.5

TABLE 1. - CONTINUED

PASCAGOULA RIVER AT SITE P7 - LAT 30°25'07" LONG 088°34'28"

DATE	TIME	TUR-BID-ITY (NTU)	BIO-CHEM-ICAL OXYGEN DEMAND 5 DAY (MG/L)	FECAL COLI-FORM .7UM-MF (COL./ 100 ML)	FECAL STREP-TOCOCCI KF AGAR (COL. PER 100 ML)	TOTAL NON-FILT-RABLE RESIDUE (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)
MAY							
17...	1015	6.0	1.0	*1400	300	31	.12
17...	1800	3.0	.8	1100	880	41	.11
18...	0925	--	.8	--	--	--	--
18...	1740	--	1.7	--	--	--	--

DATE	TOTAL AMMONIA NITRO-GEN (N) (MG/L)	TOTAL ORGANIC NITRO-GEN (N) (MG/L)	TOTAL KJEL-DAHL NITRO-GEN (N) (MG/L)	TOTAL NITRO-GEN (N) (MG/L)	TOTAL NITRO-GEN (NO3) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	TOTAL ORGANIC CARBON (C) (MG/L)
MAY							
17...	.07	.44	.51	.63	2.8	.04	6.5
17...	.08	.89	.97	1.1	4.8	.04	6.8
18...	.06	.42	.48	--	--	--	--
18...	.04	.55	.59	--	--	--	--

* NONIDEAL COLONY COUNT.

TABLE 1. - CONTINUED

PASCAGOULA RIVER AT SITE P8 - LAT 30°25'26" LONG 088°33'36"

DATE	TIME	SAMPLING DEPTH (FT)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	DISSOLVED OXYGEN (MG/L)
MAY						
17...	1031	1.0	2400	7.7	24.5	7.1
17...	1032	5.0	6000	7.7	24.5	6.6
17...	1033	10	15000	7.8	24.5	5.6
17...	1034	15	29000	7.8	24.0	3.8
17...	1816	1.0	2000	7.7	25.0	7.2
17...	1817	5.0	3000	7.5	25.0	7.1
17...	1818	10	5000	7.4	25.0	7.0
17...	1819	15	20000	7.1	25.0	6.5
18...	0931	1.0	1400	6.9	25.5	7.2
18...	0932	5.0	3000	6.7	24.5	6.7
18...	0933	10	10000	6.6	25.0	5.7
18...	0934	15	19000	6.9	25.0	4.6
18...	1751	1.0	2300	7.4	25.5	7.3
18...	1752	5.0	4000	7.3	25.5	6.9
18...	1753	10	5500	7.3	25.5	6.5
18...	1754	15	9000	7.2	25.0	5.1

TABLE 1. - CONTINUED

PASCAGOULA RIVER AT SITE P8 - LAT 30°25'26" LONG 088°33'36"

DATE	TIME	TUR-BID-ITY (NTU)	BIO-CHEM-ICAL OXYGEN DEMAND 5 DAY (MG/L)	FECAL COLI-FORM .7UM-MF (COL./ 100 ML)	FECAL STREP-TOCOCCI KF AGAR (COL. PER 100 ML)	TOTAL NON-FILT-RABLE RESIDUE (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)
MAY							
17...	1030	4.0	1.1	390	340	34	.12
17...	1815	7.0	.5	300	710	19	.14
18...	0930	--	.8	--	--	--	--
18...	1750	--	.8	--	--	--	--

DATE	TOTAL AMMONIA NITRO-GEN (N) (MG/L)	TOTAL ORGANIC NITRO-GEN (N) (MG/L)	TOTAL KJEL-DAHL NITRO-GEN (N) (MG/L)	TOTAL NITRO-GEN (N) (MG/L)	TOTAL NITRO-GEN (NO3) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	TOTAL ORGANIC CARBON (C) (MG/L)
MAY							
17...	.09	.51	.60	.72	3.2	.05	--
17...	.04	.80	.84	.98	4.3	.03	6.3
18...	.09	.51	.60	--	--	--	--
18...	.07	.64	.71	--	--	--	--

PASCAGOULA RIVER AT SITE P9 - LAT 30°26'17" LONG 088°33'28"

DATE	TIME	SAMP-LING DEPTH (FT)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	DIS-SOLVED OXYGEN (MG/L)
MAY						
17...	1046	1.0	1000	7.3	24.5	6.7
17...	1047	5.0	5500	7.2	24.5	6.4
17...	1048	10	12000	7.3	24.5	5.4
17...	1049	15	17500	7.2	24.5	4.4
17...	1050	20	22000	7.1	24.0	3.8
17...	1051	25	22000	7.1	23.5	2.6
17...	1831	1.0	1400	7.7	25.5	7.3
17...	1832	5.0	1400	7.5	25.5	7.2
17...	1833	10	4000	7.1	25.0	6.3
17...	1834	15	15000	7.0	24.5	5.1
17...	1835	20	20000	7.0	24.5	4.6
17...	1836	25	26000	7.1	24.0	3.6
18...	0936	1.0	800	6.9	24.5	7.0
18...	0937	5.0	1000	6.8	24.5	6.6
18...	0938	10	6000	6.6	25.0	5.8
18...	0939	15	13500	6.6	25.0	4.9
18...	0940	20	17500	6.7	25.0	4.6
18...	0941	25	25000	6.9	24.0	2.9
18...	0942	30	26000	6.9	24.0	2.7
18...	1801	1.0	1300	7.2	26.0	7.3
18...	1802	5.0	1600	7.2	25.5	7.1
18...	1803	10	2500	7.2	25.5	6.8
18...	1804	15	11500	7.1	24.5	4.7
18...	1805	20	17000	7.1	24.5	4.4
18...	1806	25	24000	7.1	24.5	3.3

PASCAGOULA RIVER AT SITE P9 - LAT 30°26'17" LONG 088°33'28"

DATE	TIME	TUR-BID-ITY (NTU)	BIO-CHEM-ICAL OXYGEN DEMAND 5 DAY (MG/L)	FECAL COLI-FORM .7UM-MF (COL./100 ML)	FECAL STREP-TOCOCCI KF AGAR (COL. PER 100 ML)	TOTAL NON-FILT-RABLE RESIDUE (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)
MAY							
17...	1045	9.0	.6	820	540	58	.12
17...	1830	10	.3	230	500	25	.13
18...	0935	--	.4	--	--	--	--
18...	1800	--	1.1	--	--	--	--

DATE	TOTAL AMMONIA NITRO-GEN (N) (MG/L)	TOTAL ORGANIC NITRO-GEN (N) (MG/L)	TOTAL KJEL-DAHL NITRO-GEN (N) (MG/L)	TOTAL NITRO-GEN (N) (MG/L)	TOTAL NITRO-GEN (NO3) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	TOTAL ORGANIC CARBON (C) (MG/L)
MAY							
17...	.11	.36	.47	.59	2.6	.06	5.6
17...	.08	1.0	1.1	1.2	5.4	.04	7.0
18...	.13	.69	.82	--	--	--	--
18...	.12	1.2	1.3	--	--	--	--

TABLE 1. - CONTINUED

PASCAGOULA RIVER AT SITE P10 - LAT 30°26'48" LONG 088°34'06"

DATE	TIME	SAMPLING DEPTH (FT)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	DISSOLVED OXYGEN (MG/L)
MAY						
17...	1101	1.0	62	6.6	24.5	7.2
17...	1102	5.0	64	6.6	24.5	7.1
17...	1103	10	7500	7.4	24.5	5.7
17...	1104	15	16500	7.3	24.0	4.5
17...	1105	20	18500	7.3	24.0	3.4
17...	1846	1.0	800	7.3	25.0	7.4
17...	1847	5.0	800	7.2	25.0	7.2
17...	1848	10	800	7.1	25.0	7.1
17...	1849	15	1000	7.1	25.0	7.2
17...	1850	20	15500	6.7	24.0	3.8
17...	1851	25	20000	6.8	24.0	3.2
17...	1852	30	20000	6.9	24.0	3.0
18...	0946	1.0	155	6.9	24.5	7.1
18...	0947	5.0	150	6.9	24.5	6.9
18...	0948	10	7000	7.0	25.0	5.8
18...	0949	15	12000	6.9	25.0	5.0
18...	0950	20	17000	6.9	24.5	4.1
18...	0951	25	20000	6.8	24.0	3.0
18...	0952	30	20000	6.8	23.5	2.7
18...	1811	1.0	900	7.2	25.5	7.6
18...	1812	5.0	1500	7.2	25.5	7.1
18...	1813	10	1800	7.1	25.5	6.9
18...	1814	15	2300	7.1	25.0	6.4
18...	1815	20	13000	7.0	24.5	4.1
18...	1816	25	18000	6.9	24.5	3.5

TABLE 1. - CONTINUED

PASCAGOULA RIVER AT SITE P10 - LAT 30°26'48" LONG 088°34'06"

DATE	TIME	TUR-BID-ITY (NTU)	BIO-CHEM-ICAL OXYGEN DEMAND 5 DAY (MG/L)	FECAL COLI-FORM .7UM-MF (COL./100 ML)	FECAL STREP-TOCOCCI KF AGAR (COL. PER 100 ML)	TOTAL NON-FILT-RABLE RESIDUE (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)
MAY							
17...	1100	4.0	.5	600	150	26	.15
17...	1845	5.0	.2	*2200	500	26	.14
18...	0945	--	.7	--	--	--	--
18...	1810	--	1.0	--	--	--	--

DATE	TOTAL AMMONIA NITRO-GEN (N) (MG/L)	TOTAL ORGANIC NITRO-GEN (N) (MG/L)	TOTAL KJEL-DAHL NITRO-GEN (N) (MG/L)	TOTAL NITRO-GEN (N) (MG/L)	TOTAL NITRO-GEN (NO3) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	TOTAL ORGANIC CARBON (C) (MG/L)
MAY							
17...	.04	.49	.53	.68	3.0	.04	6.1
17...	.07	.45	.52	.66	2.9	.04	7.1
18...	.14	.47	.61	--	--	--	--
18...	.04	.80	.84	--	--	--	--

* NONIDEAL COLONY COUNT.

TABLE 1. - CONTINUED

PASCAGOULA RIVER AT SITE P11 - LAT 30°27'25" LONG 088°33'37"

DATE	TIME	SAMPLING DEPTH (FT)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	DISSOLVED OXYGEN (MG/L)
MAY						
17...	1116	1.0	60	6.6	24.5	7.1
17...	1117	5.0	60	6.7	24.0	6.7
17...	1118	10	140	6.7	24.0	6.5
17...	1119	15	7000	6.7	24.0	5.5
17...	1120	20	10000	6.7	24.0	5.0
17...	1901	1.0	150	7.3	24.5	7.2
17...	1902	5.0	150	7.2	25.0	6.9
17...	1903	10	190	7.0	25.0	6.8
17...	1904	15	220	6.9	25.0	6.8
17...	1905	20	12000	6.6	24.0	3.8
18...	0956	1.0	70	6.8	25.0	7.3
18...	0957	5.0	70	6.9	24.5	7.0
18...	0958	10	80	6.8	24.5	6.7
18...	0959	15	8000	6.6	24.5	5.5
18...	1821	1.0	120	7.4	25.0	7.6
18...	1822	5.0	120	7.3	25.0	7.5
18...	1823	10	280	7.2	25.0	7.3
18...	1824	15	400	7.0	25.0	7.1
18...	1825	20	5000	6.9	24.5	5.2

TABLE 1. - CONTINUED

PASCAGOULA RIVER AT SITE P11 - LAT 30°27'25" LONG 088°33'37"

DATE	TIME	TUR-BID-ITY (NTU)	BIO-CHEM-ICAL OXYGEN DEMAND 5 DAY (MG/L)	FECAL COLI-FORM .7UM-MF (COL./ 100 ML)	FECAL STREP-TOCOCCI KF AGAR (COL. PER 100 ML)	TOTAL NON-FILT-RABLE RESIDUE (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)
MAY							
17...	1115	10	.5	96	160	31	.16
17...	1900	9.0	.3	*2100	570	40	.14
18...	0955	--	.3	--	--	--	--
18...	1820	--	1.0	--	--	--	--

DATE	TOTAL AMMONIA NITRO-GEN (N) (MG/L)	TOTAL ORGANIC NITRO-GEN (N) (MG/L)	TOTAL KJEL-DAHL NITRO-GEN (N) (MG/L)	TOTAL NITRO-GEN (N) (MG/L)	TOTAL NITRO-GEN (NO3) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	TOTAL ORGANIC CARBON (C) (MG/L)
MAY							
17...	.02	.48	.50	.66	2.9	.05	5.7
17...	.02	.74	.76	.90	4.0	.04	6.6
18...	.02	.53	.55	--	--	--	--
18...	.02	.64	.66	--	--	--	--

* NONIDEAL COLONY COUNT.

TABLE 1. - CONTINUED

PASCAGOULA RIVER AT SITE P12 - LAT 30°28'22" LONG 088°33'25"

DATE	TIME	SAMPLING DEPTH (FT)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	DISSOLVED OXYGEN (MG/L)
MAY						
17...	1131	1.0	60	6.6	24.5	7.3
17...	1132	5.0	58	6.6	24.5	6.9
17...	1133	10	58	6.6	24.5	6.8
17...	1134	15	58	6.7	24.5	6.8
17...	1135	20	58	6.7	24.5	6.6
17...	1916	1.0	60	6.8	24.5	7.1
17...	1917	5.0	60	6.8	24.5	7.0
17...	1918	10	60	6.7	24.5	6.9
17...	1919	15	60	6.7	24.5	6.8
17...	1920	20	60	6.7	24.5	6.8
18...	1001	1.0	60	6.9	25.0	7.3
18...	1002	5.0	60	6.9	24.5	6.7
18...	1003	10	60	7.0	24.5	6.9
18...	1004	15	60	7.0	24.5	6.9
18...	1005	20	60	7.0	24.5	6.8
18...	1831	1.0	72	7.2	25.0	7.1
18...	1832	5.0	68	7.2	25.0	6.9
18...	1833	10	68	7.3	25.0	7.0
18...	1834	15	69	7.3	25.0	6.8
18...	1835	20	68	7.3	25.0	6.8

TABLE 1. - CONTINUED

PASCAGOULA RIVER AT SITE P12 - LAT 30°28'22" LONG 088°33'25"

DATE	TIME	TUR-BID-ITY (NTU)	BIO-CHEM-ICAL OXYGEN DEMAND 5 DAY (MG/L)	FECAL COLI-FORM .7UM-MF (COL./ 100 ML)	FECAL STREP-TOCOCCI KF AGAR (COL. PER 100 ML)	TOTAL NON-FILT-RABLE RESIDUE (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)
MAY							
17...	1130	10	.7	27	130	22	.16
17...	1915	10	.6	* 13	360	22	.14
18...	1000	--	.4	--	--	--	--
18...	1830	--	.5	--	--	--	--

DATE	TOTAL AMMONIA NITRO-GEN (N) (MG/L)	TOTAL ORGANIC NITRO-GEN (N) (MG/L)	TOTAL KJEL-DAHL NITRO-GEN (N) (MG/L)	TOTAL NITRO-GEN (N) (MG/L)	TOTAL NITRO-GEN (NO3) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	TOTAL ORGANIC CARBON (C) (MG/L)
MAY							
17...	.01	.26	.27	.43	1.9	.05	4.7
17...	.01	.37	.38	.52	2.3	.04	7.0
18...	.01	.39	.40	--	--	--	--
18...	.00	.51	.51	--	--	--	--

* NONIDEAL COLONY COUNT.

TABLE 1. - CONTINUED

ESCATAWPA RIVER AT SITE E1 - LAT 30°25'13" LONG 088°33'28"

DATE	TIME	SAMPLING DEPTH (FT)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	DISSOLVED OXYGEN (MG/L)
MAY						
17...	1246	1.0	3000	7.5	26.0	7.0
17...	1247	5.0	6000	7.3	26.0	6.9
17...	1248	10	20000	7.3	25.0	5.5
17...	1249	15	28000	7.7	24.0	4.2
17...	1250	20	30000	7.7	24.0	4.0
17...	1251	25	30000	7.6	24.0	3.5
17...	2016	1.0	4500	7.2	26.5	7.0
17...	2017	5.0	5000	7.0	26.5	6.9
17...	2018	10	8000	6.9	26.0	6.1
17...	2019	15	20000	6.9	25.0	4.0
17...	2020	20	24000	7.2	24.0	3.3
18...	1031	1.0	6000	7.1	24.5	7.1
18...	1032	5.0	9000	7.2	25.0	6.5
18...	1033	10	12500	7.2	25.0	5.9
18...	1034	15	19000	7.3	25.0	5.1
18...	1035	20	20000	7.3	25.0	4.7
18...	1036	25	26000	7.2	24.0	2.8
18...	1851	1.0	5000	7.2	27.5	6.8
18...	1852	5.0	5000	7.2	27.5	6.7
18...	1853	10	8000	7.3	26.0	5.2
18...	1854	15	11500	7.3	25.0	4.5
18...	1855	20	16000	7.2	24.5	4.0
18...	1856	25	17000	7.1	24.5	3.9
18...	1857	30	20000	7.1	24.5	3.8

TABLE 1. - CONTINUED

ESCATAWPA RIVER AT SITE E1 - LAT 30°25'13" LONG 088°33'28"

DATE	TIME	TUR-BID-ITY (NTU)	BIO-CHEM-ICAL OXYGEN DEMAND 5 DAY (MG/L)	FECAL COLI-FORM .7UM-MF (COL./100 ML)	FECAL STREP-TOCOCCI KF AGAR (COL. PER 100 ML)	TOTAL NON-FILT-RABLE RESIDUE (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)
MAY							
17...	1245	15	1.4	*2200	160	53	.09
17...	2015	4.0	1.2	*2900	780	30	.08
18...	1030	--	.9	--	--	--	--
18...	1850	--	1.5	--	--	--	--

DATE	TOTAL AMMONIA NITRO-GEN (N) (MG/L)	TOTAL ORGANIC NITRO-GEN (N) (MG/L)	TOTAL KJEL-DAHL NITRO-GEN (N) (MG/L)	TOTAL NITRO-GEN (N) (MG/L)	TOTAL NITRO-GEN (NO3) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	TOTAL ORGANIC CARBON (C) (MG/L)
MAY							
17...	.06	.59	.65	.74	3.3	.08	7.4
17...	.12	.57	.69	.77	3.4	.05	6.1
18...	.11	1.3	1.4	--	--	--	--
18...	.20	2.2	2.4	--	--	--	--

* NONIDEAL COLONY COUNT.

TABLE 1 - CONTINUED

ESCATAWPA RIVER AT SITE E1 - LAT 30°25'13" LONG 088°33'28"

DATE OF COLLECTION: MAY 19, 1977 TIME OF COLLECTION: 1800

ALDRIN BTM	UG/KG	0.0	HEPTACHLOR T.(WATER)	UG/L	0.00
ALDRIN TOTAL (WATER)	UG/L	0.00	IRON TOTAL	UG/L	500
ALK.TOT (ASCACO3)	MG/L	20	LEAD BTM	UG/G	20
ARSENIC BTM	UG/G	5	LEAD TOTAL	UG/L	12
ARSENIC TOTAL	UG/L	1	LINDANE BTM	UG/KG	0.0
BICARBONATE	MG/L	24	LINDANE TOTAL (WATER)	UG/L	0.00
CADMIUM BTM	UG/G	< 10	MAGNESIUM DISS	MG/L	170
CADMIUM TOTAL	UG/L	0	MALATHION BTM	UG/KG	0.0
CALCIUM DISS	MG/L	56	MALATHION TOT(WATER)	UG/L	0.00
CARBON TOT ORGANIC	MG/L	8.2	MANGANESE BTM	UG/G	40
CARBONATE	MG/L	0	MANGANESE TOTAL	UG/L	120
CHLORDANE BTM	UG/KG	39	MERCURY BTM	UG/G	3.0
CHLORDANE TOT(WATER)	UG/L	0.0	MERCURY TOTAL	UG/L	0.0
CHLORIDE DISS	MG/L	2500	MET PARTH BTM	UG/KG	0.0
CHROMIUM TOT BT	UG/G	< 10	MET PARTH TOT(WATER)	UG/L	0.00
CHROMIUM TOTAL	UG/L	< 10	MET TRITH BTM	UG/KG	0.0
COBALT BTM	UG/G	< 10	MET TRITH TOT(WATER)	UG/L	0.00
COBALT TOTAL	UG/L	0	OIL AND GREASE	MG/L	2
COLOR		70	PCB BTM	UG/KG	65
COPPER BTM	UG/G	< 10	PCB TOTAL (WATER)	UG/L	0.0
COPPER TOTAL	UG/L	9	PCN BTM	UG/KG	0
DDD BTM	UG/KG	8.0	PCN TOTAL (WATER)	UG/L	0.0
DDD TOTAL (WATER)	UG/L	0.00	PH FIELD		7.4
DDE BTM	UG/KG	7.0	PHENOLS	UG/L	23
DDE TOTAL (WATER)	UG/L	0.00	RESIDUE DIS TON/AFT		6.26
DDT BTM	UG/KG	3.2	RESIDUE DIS 180C	UG/L	4600
DDT TOTAL (WATER)	UG/L	0.01	SELENIUM BTM	UG/G	0.0
DIAZINON BTM	UG/KG	0.0	SELENIUM TOTAL	UG/L	0
DIAZINON TOT (WATER)	UG/L	0.00	SILICA DISSOLVED	MG/L	6.3
DIELDRIN BTM	UG/KG	0.0	SILVEX BTM	UG/KG	0
DIELDRIN TOT (WATER)	UG/L	0.0	SILVEX TOTAL (WATER)	UG/L	0.00
ENDRIN BTM	UG/KG	0.0	SP. CONDUCTANCE FLD		7000
ENDRIN TOTAL (WATER)	UG/L	0.00	SULFATE DISS	MG/L	340
ETH PARTH BTM	UG/KG	0.0	TOXAPHENE BTM	UG/KG	0
ETH PARTH TOT(WATER)	UG/L	0.00	TOXAPHENE TOT(WATER)	UG/L	0.0
ETH TRITH BTM	UG/KG	0.0	TURBIDITY (NTU) EPA		7.0
ETH TRITH TOT(WATER)	UG/L	0.00	ZINC BTM	UG/G	50
ETHION BTM	UG/KG	0.0	ZINC TOTAL	UG/L	40
ETHION TOTAL (WATER)	UG/L	0.00	2,4-D BTM	UG/KG	0
HARDNESS NONCARB	MG/L	820	2,4-D TOTAL (WATER)	UG/L	0.00
HARDNESS TOTAL	MG/L	840	2,4-DP BTM	UG/KG	0
HEPT EPOX BTM	UG/KG	0.0	2,4-DP TOTAL (WATER)	UG/L	0.00
HEPT EPOX TOT(WATER)	UG/L	0.00	2,4,5-T BTM	UG/KG	0
HEPTACHLOR BTM	UG/KG	0.0	2,4,5-T TOTAL (WATER)	UG/L	0.00

BTM: BOTTOM MATERIAL SAMPLE

TABLE 1. - CONTINUED

ESCATAWPA RIVER AT SITE E2 - LAT 30°25'35" LONG 088°32'40"

DATE	TIME	SAMPLING DEPTH (FT)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	DISSOLVED OXYGEN (MG/L)
MAY						
17...	1316	1.0	3000	7.4	26.0	6.6
17...	1317	5.0	3000	7.2	26.0	6.5
17...	1318	10	16000	7.0	25.0	5.4
17...	1319	15	21000	7.5	24.5	4.4
17...	1320	20	22000	7.5	24.0	4.0
17...	2031	1.0	3600	6.9	26.0	6.6
17...	2032	5.0	4000	6.7	26.5	6.0
17...	2033	10	8000	6.7	25.0	4.7
17...	2034	15	20000	6.8	24.5	3.7
17...	2035	20	26000	6.9	24.0	2.5
17...	2036	25	26000	7.1	23.5	2.5
17...	2037	30	26000	7.0	23.5	2.1
18...	1046	1.0	4800	7.1	25.0	6.4
18...	1047	5.0	6000	7.2	25.0	6.2
18...	1048	10	10000	7.1	25.0	5.7
18...	1049	15	18000	7.1	25.0	5.2
18...	1911	1.0	5000	7.1	27.5	6.1
18...	1912	5.0	5000	7.2	27.0	5.9
18...	1913	10	6000	7.2	25.5	4.6
18...	1914	15	15000	7.2	25.0	4.2
18...	1915	20	23000	7.1	24.0	2.7

TABLE 1. - CONTINUED

ESCATAWPA RIVER AT SITE E2 - LAT 30°25'35" LONG 088"32'40"

DATE	TIME	TUR- BID- ITY (NTU)	BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L)	FECAL COLI- FORM .7UM-MF (COL./ 100 ML)	FECAL STREP- TOCOCCI KF AGAR (COL. PER 100 ML)	TOTAL NON- FILT- RABLE RESIDUE (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)
MAY							
17...	1315	10	1.1	780	430	63	.08
17...	2030	10	.8	*9100	1800	86	.10
18...	1045	--	.6	--	--	--	--
18...	1910	--	1.2	--	--	--	--
19...	1800	7.0	--	--	--	--	.10

DATE	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL ORGANIC NITRO- GEN (N) (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (NO3) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	TOTAL ORGANIC CARBON (C) (MG/L)
MAY							
17...	.08	.80	.88	.96	4.3	.09	7.8
17...	.18	.67	.85	.95	4.2	.09	7.7
18...	.08	.76	.84	--	--	--	--
18...	.16	.72	.88	--	--	--	--
19...	.14	1.1	1.2	1.3	5.8	.05	8.2

* NONIDEAL COLONY COUNT.

TABLE 1. - CONTINUED

ESCATAWPA RIVER AT SITE E3 - LAT 30°24'59" LONG 088°32'08"

DATE	TIME	SAMP-LING DEPTH (FT)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	DIS-SOLVED OXYGEN (MG/L)
MAY						
17...	1331	1.0	2200	7.3	26.0	7.0
17...	1332	5.0	3000	7.0	25.5	6.1
17...	1333	10	18000	6.9	24.5	5.0
17...	1334	15	26000	7.1	24.0	3.4
17...	2046	1.0	5500	6.9	25.5	5.7
17...	2047	5.0	6000	6.8	25.5	5.1
17...	2048	10	8000	6.7	25.0	4.3
17...	2049	15	20000	6.8	24.5	3.7
17...	2050	20	26000	6.8	23.5	2.1
18...	1056	1.0	4000	6.9	25.0	6.4
18...	1057	5.0	5000	6.9	25.0	5.2
18...	1058	10	9000	7.1	25.0	4.4
18...	1059	15	19000	7.0	24.5	4.1
18...	1100	20	25000	6.9	23.5	2.2
18...	1931	1.0	5500	7.0	26.5	5.4
18...	1932	5.0	6000	7.0	26.0	4.6
18...	1933	10	9000	7.0	25.0	4.4
18...	1934	15	16000	6.8	24.5	3.9
18...	1935	20	24000	6.8	24.0	2.3

TABLE 1. - CONTINUED

ESCATAWPA RIVER AT SITE E3 - LAT 30°24'59" LONG 088°32'08"

DATE	TIME	TUR-BID-ITY (NTU)	BIO-CHEM-ICAL OXYGEN DEMAND 5 DAY (MG/L)	FECAL COLI-FORM .7UM-MF (COL./ 100 ML)	FECAL STREP-TOCOCCI KF AGAR (COL. PER 100 ML)	TOTAL NON-FILT-RABLE RESIDUE (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)
MAY							
17...	1330	9.0	1.2	460	200	23	.09
17...	2045	30	1.0	*5300	1200	122	.10
18...	1055	--	.9	--	--	--	--
18...	1930	--	1.3	--	--	--	--

DATE	TOTAL AMMONIA NITRO-GEN (N) (MG/L)	TOTAL ORGANIC NITRO-GEN (N) (MG/L)	TOTAL KJEL-DAHL NITRO-GEN (N) (MG/L)	TOTAL NITRO-GEN (N) (MG/L)	TOTAL NITRO-GEN (NO3) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	TOTAL ORGANIC CARBON (C) (MG/L)
MAY							
17...	.11	.73	.84	.93	4.1	.05	7.5
17...	.21	.99	1.2	1.3	5.8	.16	6.7
18...	.17	1.1	1.3	--	--	--	--
18...	.20	.48	.68	--	--	--	--

* NONIDEAL COLONY COUNT.

TABLE 1. - CONTINUED

ESCATAWPA RIVER AT SITE E4 - LAT 30°24'55" LONG 088°31'31"

DATE	TIME	SAMPLING DEPTH (FT)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	DISSOLVED OXYGEN (MG/L)
MAY						
17...	1346	1.0	3000	7.2	26.5	6.4
17...	1347	5.0	5500	7.1	25.0	5.4
17...	1348	10	7800	6.9	24.0	3.9
17...	1349	15	8300	7.1	24.0	3.2
17...	2101	1.0	6000	6.9	24.5	5.3
17...	2102	5.0	6000	6.8	24.5	4.7
17...	2103	10	7500	6.7	24.5	4.3
17...	2104	15	19500	6.7	24.0	2.9
18...	1106	1.0	4500	6.9	25.0	5.7
18...	1107	5.0	6500	6.9	24.5	5.0
18...	1108	10	10000	6.9	24.5	4.1
18...	1109	15	19000	6.8	24.0	3.4
18...	1941	1.0	7500	6.9	25.5	4.8
18...	1942	5.0	7500	7.0	25.5	4.6
18...	1943	10	9500	6.9	25.0	4.0
18...	1944	15	16000	6.8	24.5	3.2
18...	1945	20	22000	6.7	24.0	2.4

TABLE 1. - CONTINUED

ESCATAWPA RIVER AT SITE E4 - LAT 30°24'55" LONG 088°31'31"

DATE	TIME	TUR-BID-ITY (NTU)	BIO-CHEM-ICAL OXYGEN DEMAND 5 DAY (MG/L)	FECAL COLI-FORM .7UM-MF (COL./ 100 ML)	FECAL STREP-TOCOCCI KF AGAR (COL. PER 100 ML)	TOTAL NON-FILT-RABLE RESIDUE (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)
MAY							
17...	1345	5.0	.8	980	470	12	.12
17...	2100	30	1.3	*2700	*2000	80	.09
18...	1105	--	.8	--	--	--	--
18...	1940	--	1.5	--	--	--	--

DATE	TOTAL AMMONIA NITRO-GEN (N) (MG/L)	TOTAL ORGANIC NITRO-GEN (N) (MG/L)	TOTAL KJEL-DAHL NITRO-GEN (N) (MG/L)	TOTAL NITRO-GEN (N) (MG/L)	TOTAL NITRO-GEN (NO3) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	TOTAL ORGANIC CARBON (C) (MG/L)
MAY							
17...	.12	.56	.68	.80	3.5	.04	7.4
17...	.20	1.2	1.4	1.5	6.6	.13	7.5
18...	.24	.64	.88	--	--	--	--
18...	.22	.75	.97	--	--	--	--

* NONIDEAL COLONY COUNT.

TABLE 1. - CONTINUED

ESCATAWPA RIVER AT SITE E5 - LAT 30°25'28" LONG 088°30'44"

DATE	TIME	SAMPLING DEPTH (FT)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	DISSOLVED OXYGEN (MG/L)
MAY						
17...	1401	1.0	3100	7.4	25.5	6.0
17...	1402	5.0	4500	7.2	25.5	5.6
17...	1403	10	17000	7.0	24.5	3.8
17...	1404	15	24000	7.0	24.0	2.8
17...	2116	1.0	4500	6.8	24.5	5.8
17...	2117	5.0	4500	6.7	24.5	5.2
17...	2118	10	5500	6.6	24.0	5.1
17...	2119	15	18000	6.6	24.0	2.7
18...	1111	1.0	4500	6.8	27.0	3.5
18...	1112	5.0	5500	6.9	25.0	4.5
18...	1113	10	11000	7.0	25.0	4.4
18...	1114	15	17000	7.0	24.5	3.8
18...	1115	20	24000	6.9	24.0	2.1
18...	1116	25	25000	6.9	23.5	1.7
18...	1951	1.0	5000	7.0	25.0	5.4
18...	1952	5.0	5800	6.9	24.5	4.8
18...	1953	10	8000	6.9	24.5	4.8
18...	1954	15	9000	6.9	24.5	3.6
18...	1955	20	18000	7.0	23.5	1.6
18...	1956	25	24000	7.0	23.5	1.2

TABLE 1. - CONTINUED

ESCATAWPA RIVER AT SITE E5 - LAT 30°25'28" LONG 088°30'44"

DATE	TIME	TUR-BID-ITY (NTU)	BIO-CHEM-ICAL OXYGEN DEMAND 5 DAY (MG/L)	FECAL COLI-FORM .7UM-MF (COL./ 100 ML)	FECAL STREP-TOCOCCI KF AGAR (COL. PER 100 ML)	TOTAL NON-FILT-RABLE RESIDUE (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)
MAY							
17...	1400	5.0	2.6	*9800	* 2500	13	.09
17...	2115	4.0	.7	* 5300	1100	31	.09
18...	1110	--	2.2	--	--	--	--
18...	1950	--	3.7	--	--	--	--

DATE	TOTAL AMMONIA NITRO-GEN (N) (MG/L)	TOTAL ORGANIC NITRO-GEN (N) (MG/L)	TOTAL KJEL-DAHL NITRO-GEN (N) (MG/L)	TOTAL NITRO-GEN (N) (MG/L)	TOTAL NITRO-GEN (NO3) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	TOTAL ORGANIC CARBON (C) (MG/L)
MAY							
17...	.24	.59	.83	.92	4.1	.05	7.1
17...	.20	.49	.69	.78	3.5	.04	6.3
18...	.30	.80	1.1	--	--	--	--
18...	.17	1.0	1.2	--	--	--	--

* NONIDEAL COLONY COUNT.

ESCATAWPA RIVER AT SITE E6 - LAT 30°25'15" LONG 088°30'13"

DATE	TIME	SAMP-LING DEPTH (FT)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	DIS-SOLVED OXYGEN (MG/L)
MAY						
17...	1416	1.0	3000	7.2	25.0	6.0
17...	1417	5.0	3100	7.2	25.0	5.6
17...	1418	10	11000	7.0	24.5	5.4
17...	1419	15	20000	6.8	24.5	4.4
17...	1420	20	23000	6.8	24.0	3.5
17...	1421	23	23000	6.8	23.5	2.5
17...	2131	1.0	3000	6.7	24.0	5.8
17...	2132	5.0	3000	6.6	24.0	5.7
17...	2133	10	3600	6.5	24.0	5.5
17...	2134	15	5000	6.5	24.0	5.3
17...	2135	20	24000	6.5	23.5	2.3
18...	1121	1.0	2000	7.0	24.5	6.6
18...	1122	5.0	2800	7.0	24.5	5.5
18...	1123	10	6000	7.0	24.5	4.1
18...	1124	15	15000	6.9	24.0	3.6
18...	1125	20	20000	6.8	24.0	2.4
18...	1126	25	22000	6.8	23.5	1.3
18...	1127	30	24000	6.7	23.0	1.1
18...	2001	1.0	4500	7.1	24.5	5.3
18...	2002	5.0	4500	7.1	24.5	5.2
18...	2003	10	6000	7.1	24.5	4.6
18...	2004	15	7000	7.1	24.5	4.4

TABLE 1. - CONTINUED

ESCATAWPA RIVER AT SITE E6 - LAT 30°25'15" LONG 088°30'13"

DATE	TIME	TUR-BID-ITY (NTU)	BIO-CHEM-ICAL OXYGEN DEMAND 5 DAY (MG/L)	FECAL COLI-FORM .7UM-MF (COL./ 100 ML)	FECAL STREP-TOCOCCI KF AGAR (COL. PER 100 ML)	TOTAL NON-FILT-RABLE RESIDUE (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)
MAY							
17...	1415	5.0	1.1	*9400	*5200	16	.09
17...	2130	6.0	.7	*5800	660	15	.10
18...	1120	--	1.4	--	--	--	--
18...	2000	--	1.0	--	--	--	--

DATE	TOTAL AMMONIA NITRO-GEN (N) (MG/L)	TOTAL ORGANIC NITRO-GEN (N) (MG/L)	TOTAL KJEL-DAHL NITRO-GEN (N) (MG/L)	TOTAL NITRO-GEN (N) (MG/L)	TOTAL NITRO-GEN (NO3) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	TOTAL ORGANIC CARBON (C) (MG/L)
MAY							
17...	.19	.60	.79	.88	3.9	.04	5.7
17...	.13	.57	.70	.80	3.5	.02	7.0
18...	.28	.56	.84	--	--	--	--
18...	.13	.38	.51	--	--	--	--

* NONIDEAL COLONY COUNT.

TABLE 1. - CONTINUED

ESCATAWPA RIVER AT SITE E7 - LAT 30°25'12" LONG 088°29'22"

DATE	TIME	SAMPLING DEPTH (FT)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	DISSOLVED OXYGEN (MG/L)
MAY						
17...	1431	1.0	900	6.8	25.5	6.2
17...	1432	5.0	1900	6.6	24.5	5.8
17...	1433	10	4800	6.4	24.0	5.0
17...	1434	15	17000	6.5	24.0	3.4
17...	2146	1.0	1200	6.7	24.0	6.5
17...	2147	5.0	1200	6.5	24.0	6.2
17...	2148	10	1500	6.4	24.0	6.1
17...	2149	15	3600	6.3	24.0	5.7
18...	1131	1.0	350	6.9	25.0	6.5
18...	1132	5.0	700	6.9	24.5	6.2
18...	1133	10	6000	6.8	24.5	4.1
18...	1134	15	19000	6.6	24.0	2.1
18...	2011	1.0	2800	6.9	24.5	5.8
18...	2012	5.0	3000	6.9	24.5	5.6
18...	2013	10	4000	7.0	24.5	5.4
18...	2014	15	7000	7.0	24.5	4.6

TABLE 1. - CONTINUED

ESCATAWPA RIVER AT SITE E7 - LAT 30°25'12" LONG 088°29'22"

DATE	TIME	TUR-BID-ITY (NTU)	BIO-CHEM-ICAL OXYGEN DEMAND 5 DAY (MG/L)	FECAL COLI-FORM .7UM-MF (COL./ 100 ML)	FECAL STREP-TOCOCCI KF AGAR (COL. PER 100 ML)	TOTAL NON-FILT-RABLE RESIDUE (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)
MAY							
17...	1430	3.0	.6	* 4100	* 9300	31	.09
17...	2145	4.0	.2	* 3300	680	13	.11
18...	1130	--	.8	--	--	--	--
18...	2010	--	.5	--	--	--	--

DATE	TOTAL AMMONIA NITRO-GEN (N) (MG/L)	TOTAL ORGANIC NITRO-GEN (N) (MG/L)	TOTAL KJEL-DAHL NITRO-GEN (N) (MG/L)	TOTAL NITRO-GEN (N) (MG/L)	TOTAL NITRO-GEN (NO3) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	TOTAL ORGANIC CARBON (C) (MG/L)
MAY							
17...	.16	.58	.74	.83	3.7	.05	7.0
17...	.07	.55	.62	.73	3.2	.02	6.1
18...	.14	.50	.64	--	--	--	--
18...	.08	.63	.71	--	--	--	--

* NONIDEAL COLONY COUNT.

TABLE 1. - CONTINUED

ESCATAWPA RIVER AT SITE E8 - LAT 30°25'41" LONG 088°29'01"

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	DIS- SOLVED OXYGEN (MG/L)
MAY						
17...	1446	1.0	1100	6.8	24.5	6.5
17...	1447	5.0	1200	6.5	24.5	6.2
17...	1448	10	1400	6.2	24.5	6.0
17...	1449	15	5000	6.1	24.0	5.1
17...	1450	20	13000	6.2	23.5	2.8
17...	1451	25	14000	6.3	23.5	2.6
17...	1452	30	14500	6.4	23.5	2.5
17...	2201	1.0	50	6.5	24.0	6.6
17...	2202	5.0	60	6.2	24.0	6.6
17...	2203	10	60	6.1	24.0	6.5
17...	2204	15	50	6.0	24.0	6.5
17...	2205	20	50	5.9	24.0	6.4
17...	2206	25	65	5.9	24.0	6.4
17...	2207	30	70	5.8	24.0	6.2
17...	2208	35	1000	5.5	24.0	6.2
17...	2209	40	15000	6.0	23.5	2.1
18...	1141	1.0	1300	6.7	24.5	6.5
18...	1142	5.0	2500	6.7	24.0	5.8
18...	1143	10	3500	6.8	24.0	5.5
18...	1144	15	10000	6.6	24.0	3.4
18...	1145	20	13500	6.6	24.0	3.0
18...	1146	25	14000	6.6	23.5	2.9
18...	1147	30	14500	6.6	23.5	2.8
18...	1148	35	14500	6.6	23.5	2.6
18...	2016	1.0	1000	6.5	24.5	6.4
18...	2017	5.0	1000	6.5	24.5	6.3
18...	2018	10	1100	6.4	24.5	6.2
18...	2019	15	1400	6.7	24.5	6.2
18...	2020	20	1400	6.8	24.5	6.2
18...	2021	25	1400	6.7	24.5	6.1
18...	2022	30	1400	6.7	24.5	5.9
18...	2023	35	15000	6.6	24.0	2.3

TABLE 1. - CONTINUED

ESCATAWPA RIVER AT SITE E8 - LAT 30°25'41" LONG 088°29'01"

DATE	TIME	TUR-BID-ITY (NTU)	BIO-CHEM-ICAL OXYGEN DEMAND 5 DAY (MG/L)	FECAL COLI-FORM .7UM-MF (COL./100 ML)	FECAL STREP-TOCOCCI KF AGAR (COL. PER 100 ML)	TOTAL NON-FILT-RABLE RESIDUE (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)
MAY							
17...	1445	5.0	.7	*6300	>2000	21	.12
17...	2200	3.0	.3	*18000	*2200	27	.11
18...	1140	--	.7	--	--	--	--
18...	2015	--	.7	--	--	--	--

DATE	TOTAL AMMONIA NITRO-GEN (N) (MG/L)	TOTAL ORGANIC NITRO-GEN (N) (MG/L)	TOTAL KJEL-DAHL NITRO-GEN (N) (MG/L)	TOTAL NITRO-GEN (N) (MG/L)	TOTAL NITRO-GEN (NO3) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	TOTAL ORGANIC CARBON (C) (MG/L)
MAY							
17...	.19	.46	.65	.77	3.4	.04	6.2
17...	.13	.50	.63	.74	3.3	.02	6.0
18...	.20	.70	.90	--	--	--	--
18...	.03	.68	.71	--	--	--	--

* NONIDEAL COLONY COUNT.

TABLE 1. - CONTINUED

ESCATAWPA RIVER AT SITE E9 - LAT 30°26'14" LONG 088°28'48"

DATE	TIME	SAMP-LING DEPTH (FT)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	DIS-SOLVED OXYGEN (MG/L)
MAY						
17...	1501	1.0	48	6.4	25.0	6.6
17...	1502	5.0	75	6.2	24.0	6.1
17...	1503	10	170	6.0	23.5	6.4
17...	1504	15	190	5.9	23.5	6.1
17...	2216	1.0	48	6.2	23.5	6.7
17...	2217	5.0	48	6.2	23.5	6.7
17...	2218	10	45	6.3	23.5	6.6
17...	2219	15	45	6.3	23.5	6.6
18...	1151	1.0	150	6.8	25.0	6.1
18...	1152	5.0	240	6.7	24.5	6.2
18...	1153	10	800	6.6	24.0	5.9
18...	1154	15	2100	6.5	24.0	5.4
18...	2031	1.0	48	6.8	24.0	6.8
18...	2032	5.0	45	6.8	24.0	6.8
18...	2033	10	45	6.9	24.0	6.8
18...	2034	15	45	7.0	24.0	6.7

TABLE 1. - CONTINUED

ESCATAWPA RIVER AT SITE E9 - LAT 30°26'14" LONG 088°28'48"

DATE	TIME	TUR-BID-ITY (NTU)	BIO-CHEM-ICAL OXYGEN DEMAND 5 DAY (MG/L)	FECAL COLI-FORM .7UM-MF (COL./ 100 ML)	FECAL STREP-TOCOCCI KF AGAR (COL. PER 100 ML)	TOTAL NON-FILT-RABLE RESIDUE (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)
MAY							
17...	1500	6.0	.1	400	300	13	.11
17...	2215	6.0	.1	120	140	4	.14
18...	1150	--	.3	--	--	--	--
18...	2030	--	.9	--	--	--	--

DATE	TOTAL AMMONIA NITRO-GEN (N) (MG/L)	TOTAL ORGANIC NITRO-GEN (N) (MG/L)	TOTAL KJEL-DAHL NITRO-GEN (N) (MG/L)	TOTAL NITRO-GEN (N) (MG/L)	TOTAL NITRO-GEN (NO3) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	TOTAL ORGANIC CARBON (C) (MG/L)
MAY							
17...	.03	.60	.63	.74	3.3	.01	7.0
17...	.03	.25	.28	.42	1.9	.01	6.4
18...	.05	.46	.51	--	--	--	--
18...	.01	.53	.54	--	--	--	--